GEOTHERMAL RESOURCE ASSESSMENT: A CASE STUDY OF SPATIAL VARIABILITY AND UNCERTAINTY ANALYSIS FOR THE STATES OF NEW YORK AND PENNSYLVANIA

A Thesis

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirement for the Degree of

Master of Science

by

Gloria Andrea Aguirre

August 2014

ABSTRACT

Historically, the Northeastern United States has not been carefully explored for geothermal resources mainly because of its low-grade category, which does not make it feasible for electricity generation in today's energy markets. Advanced technologies, such as Enhanced Geothermal Systems (EGS), have shown potential for using low-grade resources for both direct thermal use for heating and cooling and combined heat and power applications (CHP) (Tester et al., 2006; Tester et al., 2010).

Interest in geothermal has fluctuated over the last 40 years, since uncertainties in resource maps, coupled with expected high drilling costs often minimize the viability of low-grade geothermal resources relative to the cost of current alternatives, such as natural gas. Research in this area continues to be done with the hope of exploiting the many economic, social, and political benefits this renewable energy has to offer.

This thesis develops and compares methods for the assessment of geothermal characteristics of a region and their estimates of the uncertainty in the assessments. In addition, this thesis uses such methods to provide an assessment of the geothermal characteristics of the New York - Pennsylvania region for which drill-log information is available. This thesis has 5 major sections corresponding to 9 chapters.

Chapters 1 and 2 provide an introduction to the thesis and the analysis. Chapter 3 discusses methods for developing thermal resource characteristics. Specifically, bottom-hole temperature (BHT) corrections and equations used to describe geothermal gradient, average thermal conductivity, surface heat flow, and temperature-at-depth are discussed.

Chapters 4 and 5 provide an analysis of the geology and available well data for the Appalachian Basin of New York and Pennsylvania. Chapter 5 recommends methods for the detection of anomalies or outlying values within large datasets.

Chapters 6 and 7 recommend methods for the assessment of geothermal characteristics for the Appalachian Basin of New York and Pennsylvania, as well as estimates of the uncertainty in the assessment. Chapter 8 provides a comparison of the estimates reported in Chapter 6 and 7 and reports the performance of each method. Chapter 9 provides the conclusions of the thesis and the analysis.

BIOGRAPHICAL SKETCH

Gloria "Andrea" Aguirre was born in Monterrey, Mexico, but moved to Houston, Texas with her family at the age of 12. In the Fall 2008, Andrea finished an Associate of Applied Science in Geographic Information Systems (GIS) and an Associate of Science at Lone Star College in Houston, Texas. In the Spring 2010, Andrea obtained a B.S. in Environmental Engineering from Southern Methodist University (SMU) in Dallas, Texas.

During her time in Dallas, she participated in a two-year internship with Nathan D. Maier Consulting Engineers, Inc. working in the area of water resources. In addition, she worked at the SMU geothermal lab for a year. Soon after graduating from SMU, Andrea participated in a summer internship with CDM Smith in Sacramento, California working in the area of water resources.

In the Fall 2010, Andrea started graduate studies at Cornell University in the School of Civil and Environmental Engineering (CEE) under the advising of Professor Jery R. Stedinger and Professor Jefferson W. Tester. Andrea's Master of Science project has focused on analyzing spatial variability and assessing uncertainty analysis for geothermal resource assessments. Specifically, her work has focused in the Appalachian Basin of New York and Pennsylvania.

During her years at Cornell, Andrea has participated in two National Science Foundation (NSF) programs, including the Earth-Energy Integrated Graduate Education and Research Traineeship (IGERT) and Grass Roots GK-12 Program in Advancing Education in Renewable Energy and Cleaner Fuels. In addition, Andrea has held officer positions in various student organizations. Andrea served as the co-director for the Graduate Society of Women Engineers (GradSWE) during the 2013 – 2014 academic year, and was the Vice-President of the CEE Graduate Student Association during the 2012 – 2013 academic year. In the Spring 2014,

Andrea received the “Graduate Student Excellence in Leadership Award” from the Diversity Programs in Engineering at Cornell for her participation with GradSWE. This award is given to graduate students who positively impact the Cornell graduate student community while holding a leadership position in a student organization.

Upon completion of her Master’s, Andrea has plans to continue on to a PhD in sustainable energy systems. In the future, Andrea hopes to become a full-time professor and researcher, and hopes to share her passion for the environment with students around the nation.

To my mom, dad, brother, and loving fiancée who have been very encouraging and supportive.

ACKNOWLEDGEMENTS

I would like to thank Professor Jery R. Stedinger and Professor Jefferson W. Tester for their great contributions to this project and academic guidance. Thanks to Professor Larry D. Brown for serving on my Committee. Thanks to Professor Teresa E. Jordan for her involvement in the project.

Sincere thanks to Professor Jefferson W. Tester for the opportunity to participate in this geothermal resource assessment project, and for the opportunity of becoming part of the Cornell Energy Institute family. Thanks to Professor Tester for the financial support over these past few years.

Big thanks to my research team Elaina Shope, Tim Reber, George Stutz, Erin Camp, Calvin Whealton, Jared Smith, and the SMU Geothermal Lab for their collaboration in the project. Thanks to all my peers in the Earth-Energy IGERT, Civil and Environmental Engineering, Earth and Atmospheric Sciences, Grassroots GK-12, and GradSWE for their friendship.

Special thanks to Polly Marion and Teri Ireland that help run the IGERT program and are always so helpful and cheerful.

Thanks to the U.S. Department of Energy (contract # DE-EE0002852), the NSF Earth-Energy IGERT, the NSF Grassroots GK-12, and Cornell's Atkinson Center for a Sustainable Future whose partial support made this research possible.

Finally, thanks to my family and friends in the U.S.A., Mexico, Venezuela, and Dubai for their continuous encouragement. Special thanks to Gloria (mom), Arnulfo (dad), Andres (brother), and my loving fiancée (Victor) from whom I get a lot of my motivation.

TABLE OF CONTENTS

LIST OF FIGURES

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

LIST OF TABLES

Chapter 5

Chapter 6

Chapter 7

Chapter 8

LIST OF ABBREVIATIONS

AAPG	American Association of Petroleum Geologists
AD	Average Deviation
BHT	Bottom Hole Temperature
CEE	Civil and Environmental Engineering
CHP	Combined Heat and Power
CLF	Clarendon – Lindon Fault
COSUNA	Correlation of Stratigraphic Units of North America
DST	Drilled Stem Temperatures
EDA	Exploratory Data Analysis
EGS	Enhanced Geothermal Systems
EPA	Environmental Protection Agency
EPSG	European Petroleum Survey Group
FL	Lower Fourth
FU	Upper Fourth
GDTA	Geothermal Data Aggregation
GHGs	Greenhouse Gases
GIS	Geographic Information Systems
GradSWE	Graduate Society of Women Engineers
GSNA	Geothermal Survey of North America
HFU	Heat Flow Units
IGERT	Integrated Graduate Education and Research Traineeship
LEM	Lake Erie – Maryland Lineament
Loess	Locally Weighted Regression Smoother
LOOCV	Leave-One-Out Cross-Validation
MAD	Median Absolute Deviation
MSC	Minimum Surface Curvature

NAD	North America Datum
NGDS	National Geothermal Data System
NSF	National Science Foundation
NYSDEC	New York State Department of Environmental Conservation
OK	Ordinary Kriging
P&A	Plugged and Abandoned
q0.25	Lower Quartile or Lower Fourth
q0.5	Median
q0.75	Upper Quartile or Upper Fourth
R-Loess	Robust Locally Weighted Regression Smoother
RMSE	Root Mean Square Error
SK	Simple Kriging
SMU	Southern Methodist University
TTU	Texas Tech University
TVD	True Vertical Depth
UK	Universal Kriging
USGS	United States Geological Survey
UTK	University of Tennessee, Knoxville

CHAPTER 1

INTRODUCTION AND MOTIVATION

This thesis develops and compares methods for the assessment of geothermal characteristics of a region and their estimates of the uncertainty in the assessments. In addition, this thesis uses such methods to provide an assessment of the geothermal characteristics of the New York - Pennsylvania region for which drill-log information is available.

With greater than 85% of the United States energy use coming from fossil fuels that emit significant amounts of greenhouse gases (GHGs), the need of transitioning to sustainable energy sources with minimal environmental footprint is essential for the wellbeing of our society. Geothermal is a viable alternative energy since it is inexhaustible thermal energy originated and stored in the Earth's crust. Geothermal can produce both heat and power at competitive market costs depending upon the characteristics of the resource. In addition, the reduction of GHGs from replacing one kilowatt-hour of fossil power with a kilowatt-hour of geothermal power is greater than 90% (Glassley, 2010).

Geothermal resource characterization includes hydrothermal systems, geopressured systems, enhanced geothermal systems (EGS), and coproduced fluids from oil and gas production. Hydrothermal systems are characteristic of high quantities of hot natural fluids in a basin of high rock permeability and porosity. Geopressured systems consist on deep sedimentary basins at pressures higher than the expected hydrostatic pressure. EGS reservoirs are characteristic of low permeability and porosity and require enhancement of natural fractures for fluid flow. Coproduced fluids result from heated water from oil and gas production (Tester et al., 2006; Glassley, 2010).

Geothermal resource assessments have been conducted since the 1970's. Published estimates on hydrothermal and geopressured systems have been made by the U.S. Geological Survey (USGS). Estimates on EGS in sedimentary and crystalline basement rock formations, and coproduced fluids from oil and gas production have been published by McKenna et al. (2005) and Tester et al. (2006).

While most geothermal projects in the United States have focused on hydrothermal basins which are likely to be economic to exploit, EGS in sedimentary basins, such as the Appalachian Basin Province, are considered to have a vast amount of stored thermal energy. Estimated stored thermal energy in hydrothermal basins can range from 2,400 – 9,600 EJ (1 EJ = 10^{18}J) at depths less than 3 km. Geopressured systems are expected to contain thermal energy in the range of 71,000 – 170,000 EJ (White and Williams, 1975; Muffler and Guffanti, 1979). Sedimentary basins can reach 100,000 EJ at depths greater than 3 km. Much of the thermal energy is expected at the base of sedimentary units into basement rocks with estimated stored thermal energy of 13,300,000 EJ at depths of 3 – 10 km (Tester et al., 2006). Coproduced fluids are estimated to contain 0.0944 – 0.4510 EJ (McKenna et al., 2005).

For over 30 years, Professor David Blackwell's group at Southern Methodist University (SMU) has had a leading role in geothermal data collection and resource assessment mapping in the nation. The Geothermal Map of North American was first published by the Geological Society of America in 1992, and an updated version was published in 2004 by the American Association of Petroleum Geologists (AAPG) (Blackwell and Steele, 1992; Blackwell and Richards, 2004). As of 2008, the SMU Regional Heat Flow Database showed a total number of 27 data points in New York State and 9 data points in Pennsylvania (SMU, 2008).

Historically, the Appalachian Basin Province of New York State and Pennsylvania has not been carefully explored for geothermal energy in part because the resource was thought to be of modest quality, which would not make it feasible for electricity generation in today's energy markets. Recently, studies have examined the possibility of employing mid-to-low-grade resources as direct-use for heating and cooling, or for combined heat and power (CHP) applications (Fox et al., 2011; Tester et al., 2006; Tester et al., 2010). Because a greater fraction of the recovered geothermal heat can be utilized, the economic feasibility of direct-use or CHP is predicted to be within range of today's energy prices.

Due to increased drilling for unconventional natural gas in the Appalachian Basin in Pennsylvania, many areas have benefited from the collection of thousands of wells containing valuable temperature-depth information. With the compilation of historic and new oil and gas drilling data, a total number of 8,919 wells were analyzed in New York and Pennsylvania. Data sources include SMU, the New York State Museum, the New York State Department of Environmental Conservation, and the Pennsylvania Geological Survey (NYSDEC, 2011). The available data in New York covers most of central and western counties, and most of western Pennsylvania. Very sparse data exists in the northeastern portion of New York and the southeastern portion of Pennsylvania.

The compilation of thousands of historic and recent bottom hole temperature (BHT) measurements in New York and Pennsylvania has enabled a significant enhancement in the quality of geothermal resource assessment maps for this region. It has led to the development of more efficient techniques for managing and processing large quantities of well and geologic data with the ultimate goal of improving the spatial granularity and reducing the uncertainty of

previously developed geothermal resource maps (Shope et al., 2012; Stutz et al. 2012; Shope, 2012; Stutz, 2012; Reber, 2013).

This work was part of the Geothermal Data Aggregation (GTDA) project lead by Southern Methodist University (SMU) with collaboration from Siemens Corporation, Bureau of Economic Geology at the University of Texas – Austin, Geothermal Resource Council (GRC), MLKay Technologies, Texas Tech University (TTU), and University of North Dakota. The mission of this project was to provide the National Geothermal Data System (NGDS) with legacy information from archived documents and current geothermal data from well logs.

The NGDS project lead by Boise State University in collaboration with SMU, USGS, National Renewable Energy Laboratory (NREL), and the Association of American State Geologists (AASG) is expected to serve as the central location for publicly available geothermal data, with the intent of mitigating much of the associated uncertainties with geothermal exploration and resource characterization (NGDS, 2012).

REFERENCES

Blackwell, D. D. and Steele, J. L. (1992). DNAG Geothermal Map of North America, scale 1:5,000,000, Geological Society of America.

Blackwell, D. D. and Richards, M. (2004). Geothermal Map of North America. The American Association of Petroleum Geologist (AAPG), 1 sheet, scale 1:6,500,000.

Fox, D. B., Sutter, D., Tester, J. W. (2011). The Thermal Spectrum of Low-Temperature Energy Use in the United States. Energy and Environmental Science, 4, 3731-3740. DOI: 10.1039/c1ee01722e.

Glassley, W.E. (2010). Geothermal Energy: Renewable Energy and the Environment. Energy and the Environment, Abbas Ghassemi, Series Editor. CRC Press, Taylor & Francis Group. Boca Raton, Florida.

McKenna, J., Blackwell, D., Moyes, C., Patterson, P. D. (2005). Geothermal Electric Power Supply Possible from Gulf Coast, Midcontinent Oil Field Waters. Oil & Gas Journal, Sept. 5, pp. 34-40.

Muffler, L. J. P. and Guffanti, M. (eds.). (1979). Assessment of Geothermal Resources in the United States 1978. US Geol. Surv., Circ. 790.

New York State Department of Environmental Conservation (NYSDEC). (2011). Oil and Gas Searchable Database. Retrieved February 2011 from <http://www.dec.ny.gov/cfmx/extapps/GasOil/search/wells/index.cfm.>

NGDS. (2012). National Geothermal Data System. Boise State University, Southern Methodist University, U. S. Geological Survey, Association of American State Geologists. < http://www.geothermaldata.org/Home.aspx>

Reber, T.J. (2013). Evaluating Opportunities for Enhanced Geothermal System (EGS) – Based District Heating in New York and Pennsylvania. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Shope, E. N., Reber, T. J., Stutz, G. R., Aguirre, G. A., Jordan, T. E., Tester, J. W. (2012). Geothermal Resource Assessment: A Detailed Approach to Low-Grade Resources in the States of New York and Pennsylvania. PROCEEDINGS, Thirty-Seventh Workshop on Geothermal Reservoir Engineering, Stanford, CA, January 30 - February 1, 2012.

Shope. E.N. (2012). A Detailed Approach to Low-Grade Geothermal Resources in the Appalachian Basin of New York and Pennsylvania: Heterogeneities within the Geologic Model and their effect on Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

SMU Geothermal Lab. (2008). Regional Geothermal Database of U.S. Geothermal Resources. Southern Methodist University. <http://smu.edu/geothermal/georesou/resource.htm>

Stutz, G. R., Williams, M., Frone, Z., Reber, T. J., Blackwell, D., Jordan, T., Tester, J. W. (2012). A Well by Well Method for Estimating Surface Heat Flow for Regional Geothermal Resource Assessment. PROCEEDINGS, Thirty-Seventh Workshop on Geothermal Reservoir Engineering, Stanford, CA, January 30 - February 1, 2012.

Stutz, G. R. (2012). Development, Analysis, and Application of a Well by Well Method for Estimating Surface Heat Flow for Regional Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Tester, J.W., Anderson, B.J., Batchelor, A.S., Blackwell, D.D., DiPippo, R., Drake, E.M., Garnish, J., Livesay, B., Moore, M.C., Nichols, K., Petty, S., Toksöz, M.N., Veatch, R.W., Jr. (2006). The Future of Geothermal Energy: Impacts of Enhanced Geothermal Systems (EGS) of the United States in the 21st Century. An assessment by an MIT-led interdisciplinary panel. Massachusetts Institute of Technology.

Tester, J.W., Joyce, W.S., Brown, L., Bland, B., Clark, A., Jordan, T., Andronicos, C., Allmendinger, R., Beyers, S., Blackwell, D., Richards, M., Frone, Z., Anderson, B. (2010). Co-Generation Opportunities for Lower Grade Geothermal Resources in the Northeast – A Case Study of the Cornell Site in Ithaca, NY. GRC Transactions, Vol. 34: 475-483.

White, D. F. and Williams, D. L. (1975). Assessment of Geothermal Resources of the United States. U.S. Geological Survey (USGS) Circular 726. Prepared in cooperation with the Energy Research and Development Administration.

CHAPTER 2

THESIS OBJECTIVES AND APPROACH

2.1 Objectives

This thesis has two major objectives. The first is to compare methods for the assessment of geothermal characteristic of a region, as well as the estimates of the uncertainty in the assessments. The second is to use such methods to provide an assessment of the geothermal characteristics of the New York-Pennsylvania region for which drill-log information is available.

2.2 Approach

For the first objective, the approach was to propose techniques for statistical exploratory data analysis and methods for the detection and treatment of anomalies or outlying values within large datasets. Graphical techniques for statistical exploratory data analysis include construction of histograms and boxplots. Methods for the detection of anomalous values include global and local outlier analysis. For global outlier analysis, three methods were explored: (1) boxplot rule, (2) asymmetric boxplot rule, and (3) median with average deviation rule. For local outlier analysis, data points identified as global outliers were tested relative to their local surroundings.

Global and local outlier analysis became necessary because some interpolation and regression methods used for the characterization of geothermal resources are not exactly robust to outlying values. Reliable interpolation and regression methods, including kriging geostatistical interpolator and locally weighted regression, were applied to provide assessments

of geothermal resource characteristics, as well as estimates of the uncertainty in the assessments. Cross sections were made to evaluate the estimates and the precision of the estimates from the interpolation and regression methods.

The approach for the second objective was to discuss the primary equations for developing thermal resource characteristics based on available drill-log information. Primary geothermal variables include the geothermal gradient, surface heat flow, expected temperatures at depth, and expected depths to specific isotherms. Analysis of the geology and the available temperature-depth well data for the Appalachian Basin of New York and Pennsylvania is provided. The methods discussed for the first objective were applied to the Appalachian Basin of New York and Pennsylvania.

The second objective includes methodology developed in collaboration with the Geothermal Lab at Southern Methodist University (SMU) and graduate students at the Earth Energy Institute in Cornell University: Elaina N. Shope, George R. Stutz, and Timothy Reber. Preliminary findings from the resource characterization in New York and Pennsylvania are summarized in a paper presented at the Thirty-Seventh Workshop on Geothermal Reservoir Engineering in Stanford University (Shope et al. 2012; Stutz et al., 2012). In addition, a case study on the statistical and spatial analysis in the variability of geothermal heat flow are summarized in a paper presented at the Thirty-Eighty Workshop on Geothermal Reservoir Engineering in Stanford University (Aguirre et al., 2013).

2.3 Thesis Organization

This thesis has 5 major sections corresponding to 9 chapters. Chapters 1 and 2 provide an introduction to the thesis and the analysis. Chapter 3 discusses methods for developing thermal resource characteristics. Chapters 4 and 5 provide an analysis of the geology and available well data for the Appalachian Basin of New York and Pennsylvania. Chapters 6 and 7 recommend methods for the assessment of geothermal characteristics for the Appalachian Basin of New York and Pennsylvania, as well as estimates of the uncertainty in the assessment. Chapter 8 provides a comparison of the methods employed in Chapters 6 and 7, and discusses future work. Chapter 9 provides the conclusions of the thesis and the analysis.

REFERENCES

Aguirre, G.A., Stedinger, J.R., Tester, J.W. (2013). Geothermal Resource Assessment: A Case Study of Spatial Variability and Uncertainty Analysis for the State of New York and Pennsylvania. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Shope, E. N., Reber, T. J., Stutz, G. R., Aguirre, G. A., Jordan, T. E., Tester, J. W. (2012). Geothermal Resource Assessment: A Detailed Approach to Low-Grade Resources in the States of New York and Pennsylvania. PROCEEDINGS, Thirty-Seventh Workshop on Geothermal Reservoir Engineering, Stanford, CA, January 30 - February 1, 2012.

Stutz, G. R., Williams, M., Frone, Z., Reber, T. J., Blackwell, D., Jordan, T., Tester, J. W. (2012). A Well by Well Method for Estimating Surface Heat Flow to Analyze the Geothermal Energy Resource Potential of the United States. PROCEEDINGS, Thirty-Seventh Workshop on Geothermal Reservoir Engineering, Stanford, CA, January 30 - February 1, 2012.

CHAPTER 3

COMPUTATION OF THERMAL RESOURCE CHARACTERISTICS

3.1 Introduction

The objectives of this chapter are to provide a detailed description on the equations and methodology used for the characterization of geothermal resources. Specifically, bottom-hole temperature (BHT) corrections and equations used to describe the geothermal gradient, average thermal conductivity, surface heat flow, and temperature-at-depth are discussed. This study includes improved methodology developed in collaboration with the Geothermal Lab at Southern Methodist University (SMU) and graduate students at the Earth Energy Institute in Cornell University: Elaina N. Shope, George R. Stutz, and Timothy Reber (Shope et al., 2012; Stutz et al., 2012; Shope, 2012; Stutz, 2012; Reber, 2013).

Data collected in the form of oil and gas well logs contained bottom-hole temperatures (BHT) at depth. Sources of the dataset included SMU, the New York State Museum, the New York State Department of Environmental Conservation, and the Pennsylvania Geological Survey (NYSDEC, 2011). Well depths shallower than 600 m (1,968.5 ft) were excluded from the analysis to minimize the effects of regional groundwater flow and near-surface climatic variations in the geothermal gradient and surface heat flow calculations (Frone and Blackwell, 2010). Regional movement of groundwater found at shallow depths could become a major factor in the redistribution of heat flow causing some areas to appear much lower or much higher than other heat flow regions (Smith et al., 1981; Blackwell et al., 1991). Near-surface climatic effects caused as a result of small temperature differences from the borehole to the surface are known to create disturbances in geothermal gradients at shallow depths (Blackwell and Richards, 2004).

With the 600 m depth threshold, the total number of wells used in the study was 8,919. A total of 5,149 wells were collected in New York State and 3,770 wells in Pennsylvania. Most of the wells are located in the central and western portions of the states where oil and gas drilling has taken place in the past, or is currently in practice.

3.2 Bottom-Hole Temperatures

The bottom-hole temperatures (BHT) collected from oil and gas well logs represent the maximum recorded temperature at depth (Schoeppel and Gilarranz, 1966). The accuracy of the BHT measurement is a factor of the equipment calibration and the drilling processes (Grisafi et al., 1974). Problems with BHT measurements arise from the lack of calibration in the instrument's thermometer and the mud used while drilling, which is thought to increase formation temperatures in shallow wells and decrease formation temperatures at deeper depths (Grisafi et al., 1974). It is possible that BHT's obtained from well logs may not represent equilibrated temperatures.

Shoeppel and Gilarranz (1966) have indicated that undisturbed formation temperatures in the wellbore may be determined if certain parameters are known, including the mud temperature, heat capacities and thermal conductivities of the mud, rate of circulation of the mud, pipe and annulus size, and type of rock formation. These factors are not always specified in well logs; therefore, limitations to correct disturbed BHT's often persist in geothermal resource assessments.

Several attempts have been made to estimate the time it takes for the wellbore to reach equilibrium. Factors affecting the time to reach equilibrium include thermal rock conductivity,

fluid movement before drilling operations, and drilling processes and techniques (Harrison and Luza, 1985). Harrison and Luza (1985) suggest that it takes between 60 and 100 days for the wellbore to achieve complete thermal equilibrium. Shoeppel and Gilarranz (1966) showed an exponential increase between the mud temperature and the time since mud-circulation is stopped. Based on Shoeppel and Gilarranz (1966), the difference between formation temperatures and disturbed temperatures is expected to be nearly 5%. Gilarranz (1964) determined that at 10,000 ft (3,048 m) and within 12 hours after the last mud circulation, the expected disturbed BHT would be nearby 96% of the undisturbed temperature formation (Gilarranz, 1964; Harrison and Luza, 1985).

In order to increase the accuracy of the BHT's, temperature measurements are needed after the wellbore has achieved thermal equilibrium (Harrison and Luza, 1985). Re-logging wellbores a few months after drilling has ceased may not be the most economically feasible option to correcting disturbed BHT's. Techniques to correct disturbed BHT's have previously been studied based on a few thermally-equilibrated wellbores. Developing a correction that is widely applicable to various geographic and geologic regions has proven to be quite difficult, because too few thermal equilibrium measurements exist (Bullard, 1947; Kehle, 1972; Harrison et al., 1983; Deming, 1989).

Thus far, the Harrison correction has been the most popular approach to correcting disturbed BHT's. It is based on a basin analysis study of the Anadarko Basin in Oklahoma (Harrison et al., 1983; Luza et al., 1984; Gallardo and Blackwell, 1999). The Harrison correction factor was determined by comparing thermally equilibrated BHT's to disturbed BHT's at a specific depth. The thermally calibrated data was obtained from temperature logs, accurate geothermal gradients, and temperatures obtained from pressure tests (Harrison et al., 1983).

The Harrison correction factor has the form of a second order polynomial, which has been simplified in the number of significant digits (Harrison et al., 1983).

$$\Delta T = -16.51 + 0.018Z - 2.34E10^{-6}Z_w^{2} \quad (3\text{-}1)$$

where ΔT is in $^{\circ}C$ and represents the Harrison correction factor that can be added to the original disturbed BHT's and Z_w is the well depth in meters.

The Harrison correction factor has been found to be a good approximation to undisturbed BHT's (Harrison et al., 1983; Gallardo and Blackwell, 1999; Blackwell and Richards, 2004; Frone and Blackwell, 2010). By incorporating a set of equilibrium wells from several states from Spicer (1964), Gallardo and Blackwell (1999) successfully applied heat flow and conductivity modeling to thermally reconstruct the Anadarko Basin in Oklahoma. Gallardo and Blackwell (1999) compared their model results with those obtained by the Harrison correction. They found that their thermal model and the Harrison correction factor was consistently less than 5% of the expected value (Gallardo and Blackwell, 1999). Blackwell and Richards (2004) successfully calibrated the Harrison correction factor in their Geothermal Survey of North America (GSNA). Their calibrations, mainly focusing on data from the Midcontinent and the Gulf Coast, were applied to depths from 600 m (1,968.5 ft) to 3,000 m (9,842.5 ft) using accurate temperature equilibrium measurements obtained from 30 wells.

3.3 Bottom-Hole Temperature Correction in New York State and Pennsylvania

The Harrison correction was chosen as the most practical and feasible solution to non-equilibrated BHT's for the states of New York and Pennsylvania. However, the Harrison correction accounts for warmer drilling mud than the one expected in New York and

Pennsylvania (Shope et al., 2012; Shope, 2012). Drilling mud fluids in New York and Pennsylvania can be expected to be about 6 ˚C cooler than in Oklahoma (Gass, 1982; Shope et al., 2012; Shope, 2012). In addition, at shallow depths (less than 1,000 m or 3,280.8 ft), uncorrected temperature values are likely to be more representative of current thermal state equilibrium (Shope et al., 2012; Shope, 2012).

Figure 3.1 shows the correction curve for wells in New York and Pennsylvania. The change in temperature is the difference between the uncorrected BHT's and the Harrison corrected BHT's. The Harrison factor overcorrects BHT's at depths shallower than 1,000 m. The correction curve increases from depths of 1,000 m to 3,000 m. After the calibration depth of 3,000 m the curve decreases.

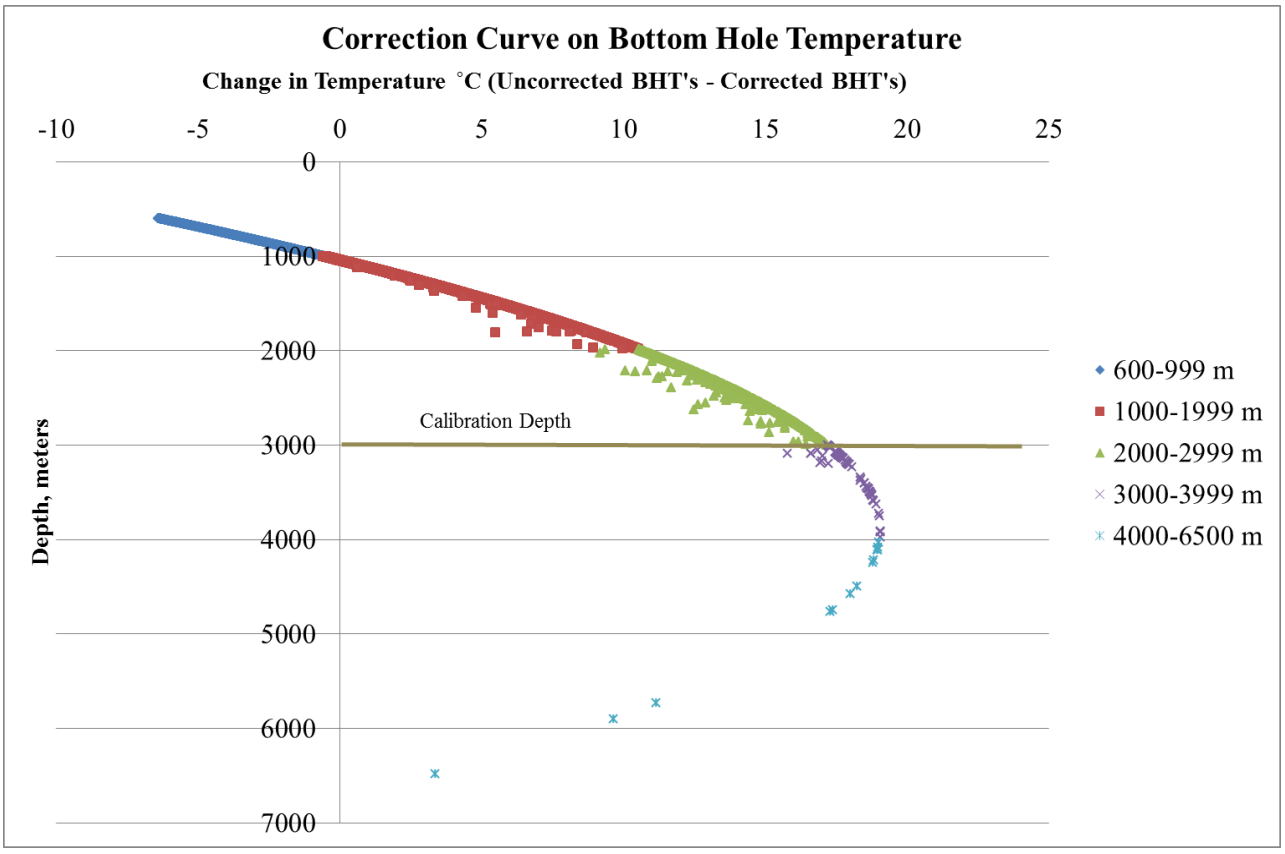


Figure 3.1: Correction effects from the Harrison correction factor when applied to BHT's in New York and Pennsylvania (Harrison et al., 1983).

3.4 Calibration of Bottom-Hole Temperature Correction in New York State and Pennsylvania

Frone and Blackwell (2010) recently calibrated the Harrison correction factor in the states of New York, Pennsylvania, and West Virginia based on temperature equilibrium data from Spicer (1964), Sass and Munroe (1974), and Hodge et al. (1981).

The thermal equilibrated wells from Spicer (1964) were collected during the 1920s through the 1940s. The Spicer wells are more reliable because his logging equipment included mercury thermometers with cable tools known to be less disruptive to temperature measurements (Spicer, 1964; Nathenson and Guffanti, 1988; Frone and Blackwell, 2010).

Hodge et al. (1981) performed equilibrium temperature measurements in 9 wells by using temperature-depth logs. Some of those wells might have been disturbed because measurements were made in wells that were not completely cased or were logged immediately after drilling (Hodge et al., 1981). Therefore, the Spicer wells can be expected to give a more accurate representation of true formation temperatures at depths.

The BHT dataset was calibrated by using 14 thermally equilibrated wells from Spicer (1964), with 12 wells located in Pennsylvania and 2 wells in New York State. Figure 3.2 shows the equilibrated temperature measurements (Spicer wells) versus Harrison corrected BHT's (blue dots) and uncorrected BHT's (orange dots). Uncorrected BHT's follow the Spicer wells at depths shallower than 1,000 m. The Harrison corrected BHT's follow the Spicer wells more closely at depths greater than 1,000 m depth. Therefore, the Harrison correction for BHT's in New York and Pennsylvania was applied only to wells greater than 1,000 m depth.

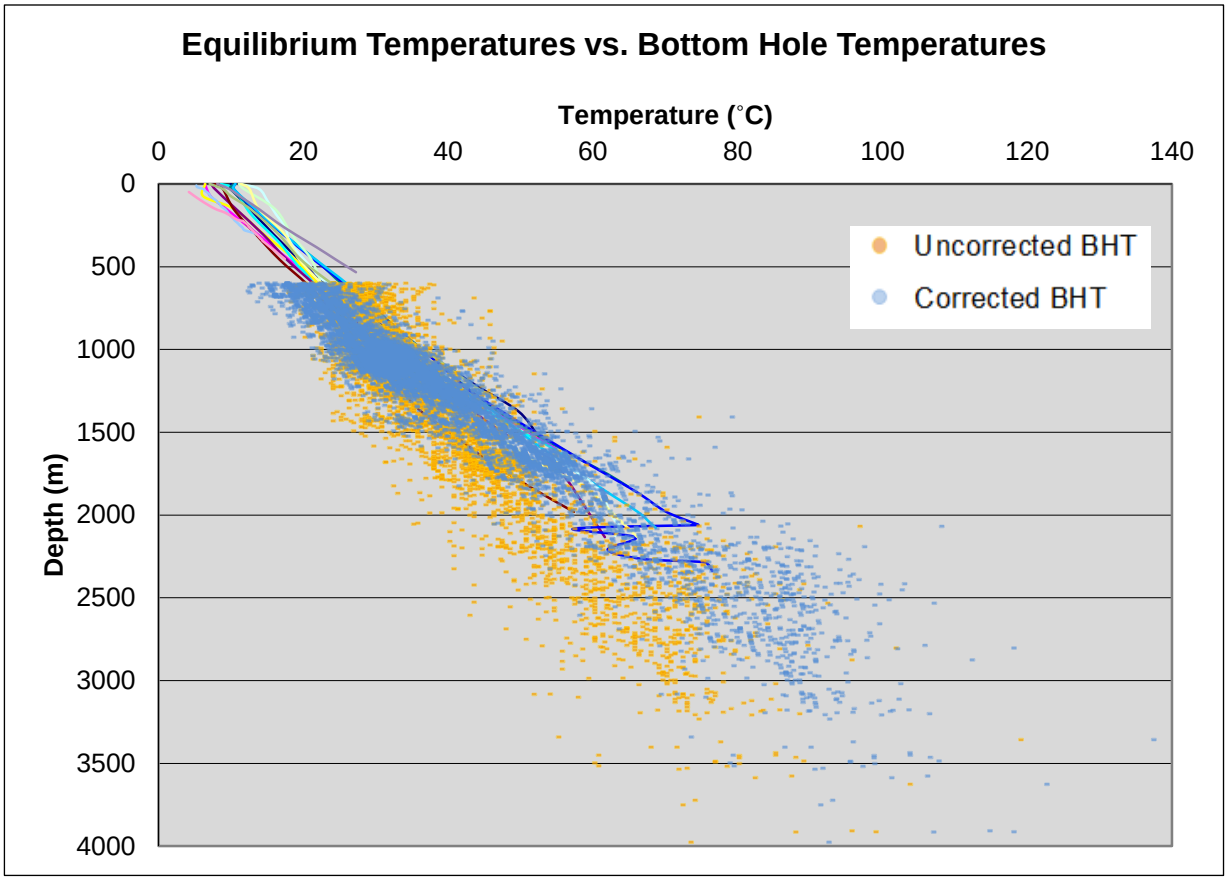


Figure 3.2: Harrison-corrected BHT's (blue) and uncorrected BHT's (orange) are compared with 14 equilibrium temperature wells in New York and Pennsylvania. Uncorrected BHT's shallower than 1,000 m closely resemble the thermal equilibrium wells. Harrison-corrected BHT's resemble thermal equilibrium wells at depths greater than 1,000 m. The applied correction is valid for depths from 914 m – 3,000 m.

3.5 Geothermal Gradient, Average Thermal Conductivity, and Surface Heat Flow

Corrected BHT's allowed for the calculation of geothermal gradients. Geothermal gradient is a measure of the rate of increasing temperature with increasing depth. To calculate the geothermal gradient for each individual well, the Harrison-corrected BHT values, average annual surface temperatures of the region, and measured vertical depths were employed, as shown in equation 3-2.

$$\left(\frac{\partial T}{\partial Z}\right) = \frac{T_{BHT} - T_S}{Z_w} \quad (3\text{-}2)$$

where $\partial T/\partial Z$ is the average geothermal gradient at each individual well in $^{\circ}C/km$, T_{BHT} is the Harrison corrected BHT in $^{\circ}C$, T_s is the average annual surface temperature of the region in $^{\circ}C$, and Z_w is the well depth in *meters*.

The measured vertical depth was determined to be the lesser of either the logging depth or the true vertical depth (TVD). The logging depth is measured and recorded by the logger, whereas the TVD is measured and recorded by the driller.

The assessment by Shope et al. (2012) and Stutz et al. (2012) used an average annual surface temperature, T_s, of 9 ˚C (48.2 ˚F) for the entire region. This value was based on temperature measurements of shallow groundwater wells (Gass, 1982).

Before surface heat flow was computed, the average thermal conductivity in a column of rock had to be defined. The average thermal conductivity describes the ability of a rock to conduct heat. It is a function of the well depth and the resistivity of the rock column to transmit the heat.

Average thermal conductivity is found by dividing the total well depth by the sum of the thermal resistance of the column of rock, as shown in equation 3-3.

$$\overline{k} = \frac{Z_w}{\sum R} \quad (3\text{-}3)$$

where $\overline{k}$ is the average thermal conductivity in $Wm^{-1}K^{-1}$, Z_w is the well depth in *meters*, and $\sum R$ is the sum of thermal resistance of the column of rock in $W^{-1}m^2K$.

The thermal resistance of each unit thickness of rock describes the resistance by which heat is transmitted through that material, and is defined in equation 3-4. Thermal conductivity and thermal resistivity are reciprocals of each other.

$$R = \frac{h}{k} \tag{3-4}$$

where *h* is the unit thickness of a specific rock lithology in *meters, k* is the rock conductivity of a specific rock unit in $Wm^{-1}K^{-1}$, and the thermal resistivity, *R*, is in units of $W^{-1}m^2K$.

Surface heat flow was previously defined as the measure of the transfer of heat or thermal energy. The medium by which heat flow is transmitted consists of source rocks that transfer heat from the mantle and core via convection and conduction-dominated systems, or from radioactive decay in the crust (Tester et al., 2005). Heat flow is calculated as a function of the geothermal gradient and the average thermal conductivity of the underlying geologic formations, as defined in equation 3-5.

$$Q_w = \overline{k}\,(\partial T/\partial Z) \tag{3-5}$$

where $\overline{k}$ is the average thermal conductivity of the underlying geologic formations in $Wm^{-1}K^{-1}$, $\partial T/\partial Z$ is the geothermal gradient in units of $^{\circ}C/km$, and surface heat flow, Q_w, is described in units of mW/m^2.

3.6 Temperature-at-Depth Methodology

To calculate estimated temperature-at-depth, factors such as geothermal gradients ($\partial T/\partial Z$), average rock thermal conductivities *($\overline{k}$)*, and heat flows *(Q_s)* are needed. Other

important factors include characteristic of sediments and basement rock sections, mantle heat flow, radioactive heat generation, and thickness of heat producing rock units; see Tester et al. (2006) and Blackwell et al. (2007) for further details.

The estimated temperature-at-depth *(T)* is established by the sum of the sediment contribution temperature *(T_s)* and the basement contribution temperature *(T_b)*. Sediment contribution temperatures depend on the previously computed surface heat flow for each well (Q_w), the average thermal conductivity for the sediment column *($\overline{k}_s$)*, the depth of the sediments *(Z_s)*, and radiogenic heat contribution of the sediments *(A_s)*. The basement contribution temperatures depend on the mantle heat flow *(Q_m)*, the average thermal conductivity for basement rock *($\overline{k}_b$)*, the depth to basement *(Z_b)*, the radiogenic heat contribution of the basement *(A_b)*, and the thickness of the radioactive heat generation of the basement rock *(r_b)*. Temperature-at-depth *(T)* is corrected for surface temperature effects *(T_0)*. The set of equations used to calculate temperatures-at-depth *(T)* are shown in equations 3-6 through 3-9; see Tester et al. (2006) and Blackwell et al. (2007) for details.

Temperature-at-Depth Corrected for Surface Temperature Effects

$$T_{final} = T + T_0 \tag{3-6}$$

where T is the estimated temperature-at-depth and T_0 is the surface temperature in $^{\circ}C$.

Temperature-at-Depth

$$T = T_S + T_b \tag{3-7}$$

where T is the estimated temperature-at-depth in $^{\circ}C$, the sediment contribution temperature is T_s in $^{\circ}C$, and the basement contribution temperature is T_b in $^{\circ}C$.

Temperature of the Sediment Contribution

$$T_S = \frac{Q_w Z_S}{\overline{k}_S} - A_S \frac{Z_S^2}{\overline{k}_S} \quad (3\text{-}8)$$

where the T_S is the sediment contribution temperatures in $^{\circ}C$, Q_w is the measured or calculated surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the sediment column in $Wm^{-1}K^{-1}$, Z_s the depth in *meters* at which T_s is calculated, and radiogenic heat contribution of the sediments is A_s with units of $\mu W/m^3$.

Temperature of the Basement Contribution

$$T_b = \frac{Q_m Z_b}{\overline{k}_b} - A_b b^2 \left[\frac{1-e^{-(\frac{Z_b}{b})}}{\overline{k}_b}\right] \quad (3\text{-}9)$$

where T_b is the basement contribution temperatures in $^{\circ}C$, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which T_b is calculated, A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, and b is the thickness of the radioactive heat generation layer in *meters*.

Blackwell et al. (2007) proposed five scenarios to estimate temperature-at-depth based on various geologic distributions. These scenarios are based on models incorporating thermal conductivity and radioactive heat contribution of the top 10 km of the crust. The scenarios include A) basement rock encountered at surface with no layers of sediments, B) young volcanic rocks covering the top 2 km from surface followed by basement rock, C) sediments covering the top 3 km from surface followed by basement rock, D) sediments covering the top 3 – 4 km from surface followed by basement rock, E) sediments extending to depths greater than 4 km followed

by basement rock. The set of equations corresponding to each of the scenarios are found below; see Blackwell et al. (2007) for details.

Scenario A – Basement rock encountered at surface with no layers of sediments

Scenario A represents one of the simplest cases where the regional geology is represented by basement rock from the surface to 10 km depth. It follows the temperature of the basement contribution shown in equation 3-9.

$$T = \frac{Q_m}{\overline{k}_b} - A_b b^2 \left[\frac{1-e^{-(\frac{Z_b}{b})}}{\overline{k}_b}\right] \quad (3\text{-}10)$$

where T is in units of $^{\circ}C$, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which T is calculated, A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, b is the thickness of the radioactive heat generation layer in *meters*.

The average thermal conductivity of the basement rock, $\overline{k}_b$, was assumed to be 2.7 $Wm^{-1}K^{-1}$ based on a vertical conductivity model produced by Blackwell et al. (2007) from measured sites, collected databases, and basement and sedimentary maps of the United States.

The radiogenic heat contribution of the basement, A_b, can be found in equation 3-11.

$$A_b = \frac{Q_w - Q_m}{b} \quad (3\text{-}11)$$

where the radiogenic heat contribution of the basement, A_b, is in units of $\mu W/m^3$, Q_w is the surface heat flow for each well in mW/m^2, Q_m is the mantle heat flow in mW/m^2, and the thickness of the radioactive heat generation layer, b, was taken as 10,000 m (32,808.4 ft).

The depth of the radioactive heat generation in the crust, *b*, for Uranium (U), Thorium (Th), and Potassium (K) can vary from 7 to 10 km (22,965.9 – 32,808.4 ft) (Roy et al., 1972).

Roy et al. (1972) suggested that most of the heat flow variations from radioactive elements occur above the 10 km range. Several authors have suggested an exponential decay function between radiogenic heat contribution in the basement and depth, as shown in equation 3-12 (Birch et al., 1968; Roy et al., 1968; Lachenbruch, 1970; Blackwell et al., 2007).

$$A(Z) = A_b \, exp[-\left(\frac{Z}{b}\right)] \tag{3-12}$$

where *A(Z)* is the heat generation at the basement at variable depth, *Z*, with *A(Z)* in units of $\mu W/m^3$, depth in *meters*, and A_b is the radiogenic heat generation of the basement in units of $\mu W/m^3$.

Lachenbruch (1970) suggested that the thickness of the radioactive heat generation layer, *b*, might be unique to geological characteristics of individual heat flow regions. In addition, Blackwell et al. (2007) noted that the exponential decay function above has been found to be consistent with observations regarding the trend with radioactive heat generation from intrusive igneous rocks at the surface, including granitic rocks, and metamorphic rocks at greater depths.

The mantle heat flow for the eastern United States was found to be 33 ± 1 mW/m^2, based on the best fit linear relationship model between the surface heat flow for each well (Q_w), the mantle heat flow (Q_m), the radiogenic heat generation (A_b), and the depth (b) of the radioactive heat generation in the crust, as shown in equation 3-13 (Roy et al., 1968; Lachenbruch, 1968; Blackwell et al., 2007).

$$Q_w = Q_m + A_b b \tag{3-13}$$

The radiogenic heat generation arises from the decay of Uranium (U), Thorium (Th), and Potassium (K). The rate of heat generation depends on the amount of the element present, the density of the rock containing these elements, and the heat generation values for each element (Beardsmore & Cull, 2001). Typical heat regeneration values for U, Th, and K are 96.7 μW/kg element, 26.3 μW/kg element, and 0.0035 μW/kg element, respectively (Emsley, 1989; Jessop, 1990, Beardsmore and Cull, 2001).

The linear relationship presented above was a result of various radioactivity and heat flow measurements, which defined *heat flow provinces* in the western and eastern United States, as well as in the Sierra Nevada. It showed the geographic variations of the radiogenic heat generation (A_b) at depth b (generally 7 -10 km), and the regional contribution of the mantle heat flow (Roy et al., 1968; Roy et al., 1972).

Furthermore, areas of mantle heat flow in the United States have been divided into two areas including areas of high mantle heat flow (~60 mW/m^2) typically found in the western states, and average mantle heat flow (~30 mW/m^2) corresponding to the rest of the country (Roy et al., 1972; Morgan and Gosnold, 1989; Blackwell et al., 2007).

Scenario B – Young volcanic rocks or a basin fill covering the top 2 km from surface followed by basement rock

Scenario B represents areas where the top 2 km are filled with young volcanic rocks, followed by basement rocks underneath. Differences in thermal conductivities, as well as in the radiogenic heat contribution of the two different layers, are noticed for depths from surface to 2 km and depths greater than 2 km. Thermal conductivities for the top 2 km from surface are lower than the thermal conductivities of basement rocks. This scenario would be characteristics

of regions such as the Basin and Range in Nevada and the Snake River Plain in Idaho (Blackwell et al., 2007). The corresponding equations for scenario B are shown below.

For depths ranging from surface up to 2 km, Z = 0 – 2 km

$$T_{0\text{-}2\ km} = \frac{Q_w Z_S}{\overline{k}_S} - A_S \frac{Z_S^2}{\overline{k}_S} \quad (3\text{-}14)$$

where $T_{0\text{-}2\ km}$ in units of $^{\circ}C$, Q_w is the surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the young volcanic rocks in $Wm^{-1}K^{-1}$, Z_s the depth in *meters* at which $T_{0\text{-}2\ km}$ is calculated, and the radiogenic heat contribution of the young volcanic rocks is A_s with units of $\mu W/m^3$.

The average thermal conductivity of the young volcanic rocks, $\overline{k}_s$, was assumed to be 2 $Wm^{-1}K^{-1}$ and the radiogenic heat contribution of the young volcanic rocks, A_s, was taken as a constant value of 1 $\mu W/m^3$, which is the value used by Blackwell et al. (2007) for an entire sedimentary column. The values were based on a vertical conductivity model produced by Blackwell et al. (2007) from measured sites, collected databases, and basement and sedimentary maps of the United States.

For depths greater than 2 km, Z > 2 km

$$T_{Z>\ 2\ km} = T_{0\text{-}2\ km} + \frac{Q_m}{\overline{k}_b} - A_b b^2 \left[\frac{1 - e^{-\left(\frac{Z_b - 2}{b}\right)}}{\overline{k}_b} \right] \quad (3\text{-}15)$$

where $T_{Z>\ 2\ km}$ in units of $^{\circ}C$, $T_{0\text{-}2\ km}$ is the temperature found for depths ranging from surface up to 2 km in units of $^{\circ}C$, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which $T_{Z>\ 2\ km}$ is calculated,

A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, b is the thickness of the radioactive heat generation layer in *meters*.

The average thermal conductivity of the basement rock, $\overline{k}_b$, was assumed to be 2.7 $Wm^{-1}K^{-1}$ based on a vertical conductivity model produced by Blackwell et al. (2007). The radiogenic heat contribution of the basement, A_b, follows the linear relationship and the exponential decay function described in equations 3-11 and 3-12, respectively.

Scenario C – Sediments covering the top 3 km from surface followed by basement rock

Scenario C represents areas where the top 3 km are filled with sediments, followed by basement rocks underneath. Similarly to scenario B, differences in thermal conductivities, as well as in the radiogenic heat contribution of the two different layers, are noticed for depths from surface to 3 km and depths greater than 3 km (Blackwell et al., 2007). The corresponding equations for scenario C are shown below.

For depths ranging from surface up to 3 km, Z = 0 – 3 km

$$T_{0\text{-}3\ km} = \frac{Q_w z_S}{\overline{k}_S} - A_S \frac{z_S^2}{\overline{k}_S} \qquad (3\text{-}16)$$

where $T_{0\text{-}3\ km}$ in units of $^{\circ}C$, Q_w is the surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the sediments in $Wm^{-1}K^{-1}$, Z_s the depth in scenario C is equal to the sediment thickness (Z = S) in units of *meters*, and the radiogenic heat contribution of the sediments is A_s in units of $\mu W/m^3$. The average thermal conductivity of the sediments, $\overline{k}_s$, for scenario C is variable and calculated as shown in equations 3-3 and 3-4. The radiogenic heat

contribution of the sediments, A_s, was taken as a constant value of 1 μW/m^3 for an entire sedimentary column (Blackwell et al., 2007).

For depths greater than 3 km, Z > 3 km

$$T_{Z>3\ km} = T_{0-3\ km} + \frac{Q_m}{\overline{k}_b} - A_b b^2 \left[\frac{1 - e^{-(\frac{Z_b - S}{b})}}{\overline{k}_b} \right] \quad (3\text{-}17)$$

where $T_{Z>3\ km}$ in units of ˚*C*, $T_{0-3\ km}$ is the temperature found for depths ranging from surface up to 3 km in units of ˚*C*, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which $T_{Z>3\ km}$ is calculated, A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, b is the thickness of the radioactive heat generation layer in *meters*.

Scenario D – Sediments covering the top 3 – 4 km from surface followed by basement rock

Scenario D represents areas where sediments occupy the top 3 or 4 km, followed by basement rocks underneath. Similarly to scenario C, thermal conductivities vary for the top 3 – 4 km, but are constant for the basement rock. Another difference is the fact that the thickness of the radioactive heat generation layer, *b*, is also variable and depends on the sediment thickness, *S*. In addition, the radioactive heat generation layer is variable because the underlying basement rock is presumed to be thinned by the weight of the thick sedimentary cover (Blackwell et al., 2007). The corresponding equations for scenario D are shown below.

For depths ranging from surface up to 4 km, Z = 0 – 4 km

$$T_{0-4\ km} = \frac{Q_w Z_S}{\overline{k}_S} - A_S \frac{Z_S^2}{\overline{k}_S} \quad (3\text{-}18)$$

where $T_{0\text{-}4\ km}$ in units of ˚*C*, T_0 is the surface temperature in units of ˚*C*, Q_w is the surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the sediments in $Wm^{-1}K^{-1}$, Z_s the depth in scenario D is equal to the sediment thickness (Z = S) in units of *meters*, and the radiogenic heat contribution of the sediments is A_s in units of $\mu W/m^3$. The average thermal conductivity of the sediments, $\overline{k}_s$, for scenario D is variable and calculated as shown in equations 3-3 and 3-4. The radiogenic heat contribution of the sediments, A_s, was taken as a constant value of 1 μW/m^3 for an entire sedimentary column (Blackwell et al., 2007).

For depths greater than 4 km, Z > 4 km

$$T_{Z>\ 4\ km} = \mathrm{T}_{0\text{-}4\ \mathrm{km}} + \frac{Q_m}{\overline{k}_b} - A_b b^2 \left[\frac{1 - e^{-\left(\frac{Z_b - S}{b}\right)}}{\overline{k}_b} \right] \qquad (3\text{-}19)$$

where $T_{Z>\ 4\ km}$ in units of ˚*C*, $T_{0\text{-}4km}$ is the temperature found for depths ranging from surface up to 4 km in units of ˚*C*, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which $T_{Z>\ 4\ km}$ is calculated, A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, *b* is the thickness of the radioactive heat generation layer in *meters*.

As previously mentioned, the thickness of the radioactive heat generation, *b*, is variable and depends on the sediment thickness, *S*. Blackwell et al. (2007) propose that if the sediment thickness is greater than 3 km, the radioactive heat generation, *b*, is then found by subtracting the sediment thickness, *S*, to 13 km to account for attenuated or eroded crust; therefore, *b = 13 km – S*. Recall that the radioactive heat generation layer is variable because the underlying basement rock is presumed to be thinned by the weight of the thick sedimentary cover (Blackwell et al., 2007).

Scenario E – Sediments extending to depths greater than 4 km followed by basement rock

Scenario E represents areas where sediment thickness is greater than 4 km from the surface, followed by basement rocks underneath. Similarly to scenario C and D, thermal conductivities for the sedimentary layers are variable for the top 4 km, but are constant for the basement rock. In addition, the radioactive heat generation layer, *b*, is also variable and depends on the sediment thickness, *S*, similar to scenario D. The corresponding equations for scenario E are shown below (Blackwell et al., 2007).

For depths ranging from surface up to 4 km, Z = 0 – 4 km

$$T_{0\text{-}4\ km} = \frac{Q_w Z_S}{\overline{k}_S} - A_S \frac{Z_S^2}{\overline{k}_S} \qquad (3\text{-}20)$$

where $T_{0\text{-}4\ km}$ in units of $^{\circ}C$, Q_w is the surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the sediments in $Wm^{-1}K^{-1}$, Z_s the depth in *meters* at which $T_{0\text{-}4\ km}$ is calculated, and the radiogenic heat contribution of the sediments is A_s in units of $\mu W/m^3$. The radiogenic heat contribution of the sediments, A_s, was taken as a constant value of 1 $\mu W/m^3$ for an entire sedimentary column (Blackwell et al., 2007).

For depths ranging from 4 km to the bottom of the sedimentary layer, Z = 4 km - S

$$T_{4\ km\ -\ S} = T_{0\text{-}4\ km} + \frac{Q_w - 4A_S}{\overline{k}_S} - A_S \frac{Z_S^2}{\overline{k}_S} \qquad (3\text{-}21)$$

where, $T_{0\text{-}4\ km}$ in units of $^{\circ}C$, T_0 is the surface temperature in units of $^{\circ}C$, Q_w is the surface heat flow for each well in mW/m^2, $\overline{k}_s$ is the average thermal conductivity of the sediments in $Wm^{-1}K^{-1}$, Z_s the depth in *meters* at which $T_{0\text{-}4\ km}$ is calculated, and the radiogenic heat contribution of the sediments is A_s in units of $\mu W/m^3$. The average thermal conductivity of the sediments, $\overline{k}_s$, was

assumed to be 2.7 $Wm^{-1}K^{-1}$ based on a vertical conductivity model produced by Blackwell et al. (2007). The radiogenic heat contribution of the sediments, A_s, was taken as a constant value of 1 $\mu W/m^3$ for an entire sedimentary column (Blackwell et al., 2007).

For depths greater than S, Z > S

$$T_{Z>S} = T_{4\ km\text{-}S} + \frac{Q_m}{\overline{k}_b} - A_b b^2 \left[\frac{1 - e^{-\left(\frac{Z_b - S}{b}\right)}}{\overline{k}_b} \right] \quad (3\text{-}22)$$

where, $T_{Z>S}$ in units of ˚*C*, $T_{4\ km\text{-}S}$ is in units of ˚*C*, Q_m is the mantle heat flow in mW/m^2, $\overline{k}_b$ is the average thermal conductivity for basement rock in $Wm^{-1}K^{-1}$, Z_b the depth in *meters* at which $T_{z>S}$ is calculated, A_b is the radiogenic heat contribution of the basement in $\mu W/m^3$, *b* is the thickness of the radioactive heat generation layer in *meters*. The radioactive heat generation, *b*, is variable and depends on the sediment thickness, *S*.

If the sediment thickness is greater than 3 km, the radioactive heat generation, *b*, is then found by subtracting the sediment thickness, *S*, to 13 km to account for attenuated or eroded crust; therefore, $b = 13\ km - S$. The radioactive heat generation layer is variable because the underlying basement rock is presumed to be thinned by the weight of the thick sedimentary cover (Blackwell et al., 2007).

In order to determine which scenarios would be applicable for the Appalachian Basin of New York and Pennsylvania, an understanding of the geology of the region is needed. Although many geological systems, groups, and formations comprise this region, the basic geology of the Appalachian Basin consists on sedimentary units of the Devonian System (360-405 m.y.a) and Cambrian System (500-570 m.y.a), which unconformably overlie crystalline basement rocks of

the Precambrian System (570 + m.y.a) (Eckstein et al., 1982; Hodge, 1996; PA DCNR, 2012). Geological characteristics of the Appalachian Basin of New York and Pennsylvania are further discussed in Chapter 4.

Because this region is characterized by high sediment thickness, the *Basement Map of North America* published by the American Association of Petroleum Geologists (AAPG) was used to create a map to show depth to basement rock from the surface (AAPG, 1978; Orlo, 1985). Figure 3.4 shows the sediment thickness of the Appalachian Basin of New York and Pennsylvania, ranging from 0 – 10 km in thickness. Sediment thickness increases from southeast New York to the western border of the Appalachian Mountains in Pennsylvania. Most of the compiled well data falls in areas of sediment cover.

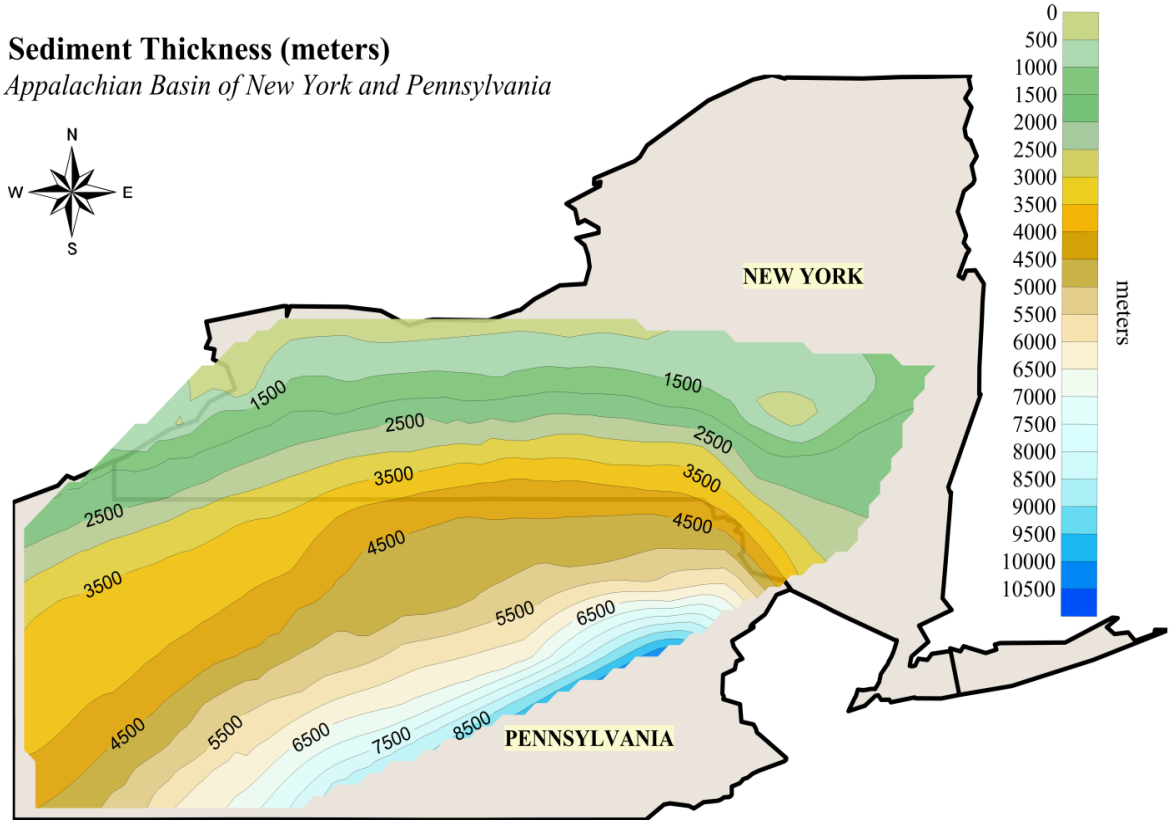


Figure 3.3: Sediment thickness showing depth (m) to basement rock from the surface for the Appalachian Basin of New York and Pennsylvania. The map was created from the *Basement map of North America* published by the American Association of Petroleum Geologists (AAPG, 1978; Orlo, 1985).

The approach described by Blackwell et al. (2007) to estimate temperature at depth given various geologic settings presented a more comprehensive way of analyzing the potential for enhanced geothermal systems (EGS) in the United States. Nonetheless, simplifications were made during the implementation of this approach. One generalization includes the simplification of vertical thermal conductivities by classifying regions into two layer models (Blackwell et al., 2007; Stutz et al., 2012; Stutz, 2012). The one layer model described by Blackwell et al. (2007) is suggested for the eastern United States where basement rock is found at surface with a constant average thermal conductivity value of $\overline{k}$ = 2.6 $Wm^{-1}K^{-1}$. A two layer model suggested using an average thermal conductivity of $\overline{k}$ = 2.6 $Wm^{-1}K^{-1}$ from the surface until a layer of lower conductivity is encountered in areas primarily containing shale, which takes a $\overline{k}$ < 2.0 $Wm^{-1}K^{-1}$ (Blackwell et al., 2007).

Another simplification was made in the sedimentary thickness sections where data was divided into groups based on depth to basement rock, and an average sediment thickness was assigned to each group (Stutz et al., 2012; Stutz, 2012). Blackwell et al., (2007) suggested the need for further studies to remove these generalizations in the thermal conductivity and sediment thickness sections. Some possible reasons for these generalizations included time limitations, large amount of input data, and the lack of an efficient processing method (Stutz et al., 2012; Stutz, 2012).

Stutz et al. (2012) proposed removing some of these generalizations by creating a model through Visual Basic for Application (VBA) that allows for the implementation of stratigraphic data and more precise thermal conductivity values based on regional lithologies (Shope et al., 2012; Stutz, 2012). The stratigraphic data was obtained from the AAPG Northern Appalachian

Correlation of Stratigraphic Units of North America (COSUNA) and includes information on formation lithologies, range of unit thicknesses, and primary lithologies (Orlo, 1985; Shope et al, 2012; Stutz et al., 2012). To better define thermal conductivities in the Appalachian Basin of New York and Pennsylvania, Shope et al. (2012) and Stutz et al. (2012) assigned values based on well documented regional thermal conductivities from primary and secondary lithological units (Beardsmore, 1996; Beardsmore and Cull; 2001; Shope et al., 2012, Stutz et al., 2012; Stutz, 2012). The thermal conductivity values for each well were then calculated as a weighted average and assigned to individual formations within the COSUNA sections (Shope et al., 2012; Stutz et al., 2012; Shope, 2012; Stutz, 2012).

In addition, the model created by Stutz et al. (2012) computes the depth at which a specific isotherm might be found (Stutz et al., 2012; Stutz, 2012). Typical isotherms of interest for the Appalachian Basin of New York and Pennsylvania include the 150 ˚C and 80 ˚C isotherms. Temperatures greater than 150 ˚C provide the baseline for electricity generation, and temperatures in the range of 50 – 100 ˚C can be directly used for district heating in domestic or commercial applications (Tester et al., 2005; Fox et al., 2011).

Stutz et al. (2012) argued that their model had the capacity of increasing the spatial accuracy of geothermal resource maps by removing several generalizations in the temperature at depth calculation originally proposed by Blackwell et al. (2007). In addition, the model reduces processing time and potential sources of human error by implementing a more systematic method for handling large quantities of data (Stutz et al., 2012; Stutz, 2012). Nonetheless, criticism of Stutz's model includes the extraction of lithological and thickness information from the COSUNA sections rather than from the actual well logs. This uncertainty is reflected in

Stutz's assumption of a homogeneous rock type with a unique thermal conductivity value assigned to each COSUNA section (Orlo, 1985).

3.7 Conclusions

This chapter covered the main equations and methodology used for the characterization of geothermal resources. The Harrison correction factor developed by Harrison et al. (1983) was selected as the most viable solution to correct for non-equilibrated BHT's as a result of disruptions in the formation temperatures from common drilling practices. Equations used for geothermal resource description, including geothermal gradient, average thermal conductivity, and surface heat flow, were discussed.

A methodology to estimate temperature-at-depth was taken from Tester et al. (2006) and Blackwell et al. (2007). To improve the methodology presented by Blackwell et al. (2007) and reduce simplifications made in sedimentary thickness sections, Stutz et al. (2012) and Stutz (2013) introduced a model that allows for the implementation of detailed stratigraphic data and more precise thermal conductivity values based on regional lithologies.

This study employed an improved methodology developed in collaboration with the Geothermal Lab at Southern Methodist University (SMU) and graduate students at the Earth Energy Institute at Cornell University: Elaina N. Shope, George R. Stutz, and Timothy Reber (Shope et al., 2012; Stutz et al., 2012; Shope, 2012; Stutz, 2012; Reber, 2013).

REFERENCES

AAPG. (1978). Basement Map of North America. The American Association of Petroleum Geologists, scale 1:5,000,000.

Beardsmore, G.R. (1996). The Thermal History of the Browse Basin and its Implications for Petroleum Extraction. PhD. Dissertation, Monash University, Victoria, Australia.

Beardsmore, G. R. and Cull, J. P. (2001). Crustal Heat Flow: A Guide to Measurement and Modelling. Cambridge University Press 2001.

Birch, F., Roy, R.F., Decker, E.R. (1968). Heat Flow and Thermal History in New England and New York, in studies of Appalachian Geology: Northern and Maritime. Edited by E. Zen, W.S. White, J.B. Hadley, and J.B. Thompson, Jr. pp. 437-451. Interscience, New York.

Blackwell, D. D., Steele, J. L., Carter, L. S. (1991). Heat-flow Patterns of the North American Continent; A Discussion of the Geothermal Map of North America. The Geology of North America, Decade Map Volume 1, pp. 423-436.

Blackwell, D. D. and Richards, M. (2004). Geothermal Map of North America. The American Association of Petroleum Geologists, 1 sheet, scale 1:6,500,000.

Blackwell, D. and Richards, M. (2004). Calibration of the AAPG Geothermal Survey of North America BHT Data Base. AAPG Meeting, Dallas, Texas. Presented as an Extended Abstract #87616. < http://smu.edu/geothermal/BHT/BHT.htm>

Blackwell, D. D., Negraru, P. T., Richards, M. C. (2007). Assessment of the Enhanced Geothermal System Resource Base of the United States. Natural Resources Research, vol. 15,pp. 283-308.

Bullard, E.C. (1947). The Time Necessary for a Borehole to Attain Temperature Equilibrium. Geophysical Journal International, vol. 5, pp. 127 – 130.

Deming, D. (1989). Application of Bottom-Hole Temperature Corrections in Geothermal Studies. Geothermics, vol. 18, pp. 775 – 786.

Eckstein, Y., Heimlich, R. A., Palmer, D.F., Shannon, Jr., S. S. (1982). Geothermal Investigations in Ohio and Pennsylvania. Los Alamos National Laboratory.

Emsley, J. (1989). The Elements. Oxford, Clarendon Press.

Fox, D. B., Sutter, D., Tester, J. W. (2011).The Thermal Spectrum of Low-Temperature Energy Use in the United States. Energy and Environmental Science, vol. 4, no. 10, pp. 3731-3740.

Frone, Z., and Blackwell,D. D. (2010).Geothermal Map of the Northeast United States and the West Virginia Thermal Anomaly.Geothermal Resources Council Transactions, vol. 34, pp. 308-312.

Gallardo, J., and Blackwell, D. D. (1999).Thermal Structure of the Anadarko Basin, Oklahoma.The American Association of Petroleum Geologists Bulletin, vol. 83, no. 2, pp. 333-361.

Gass, T. E. (1982).The geothermal heat pump.Geothermal Resources Council Bulletin, vol. 11, no. 11, pp. 3-8.

Gilarranz, Santos. (1964). Determination of Regional Geothermal Gradients in Oklahoma from Logs.University of Tulsa unpublished M.S. thesis, 65 pages.

Grisafi, T.W., Rieke III, H.H., Skidmore, D.R. (1974). Approximation of Geothermal Gradient in Northern West Virginia Using Bottom-Hole Temperatures from Electric Logs. The American Association of Petroleum Geologists.

Hansen, J., Ruedy, R., Sato, M., Lo, K. (2010). Global Surface Temperature Change. Rev. Geophys., vol. 48.

Harrison, W. E., Prater, L. M., Cheung, P. K. (1983). Geothermal Resource Assessment of Oklahoma. Special Publication 83-1, Oklahoma Geological Survey.

Harrison, W. E. and Luza, K. V. (1985). Monitoring Temperature Conditions in Recently Drilled Nonproductive Industry Boreholes in Oklahoma. Oklahoma Geological Survey.

Hodge, D. S., De Rito, R., Hifiker, K., Morgan, P., Swanberg, C. A. (1981). Investigations of Low-Temperature Geothermal Potential in New York State. Los Alamos National Laboratory. State University of New York at Buffalo. Department of Geological Sciences.

Hodge, D.S. (1996). Assessing Geothermal Energy Potential in Upstate New York. State University of New York at Buffalo. Department of Geological Sciences. Prepared for New York State Energy Research and Development Authority, Albany, New York. Report #: LA-SUB-97-19-Pt.2

Horner, D. R. (1951). Pressure Build-up in Wells," 3rd World Petroleum Congress, The Hague, NL, World Petroleum Congress, May 28 – June 6, 1951.

Jessop, A.M. (1990). Developments in Solid Earth Geophysics. Vol. 17. Thermal Geophysics. Amsterdam. Elsevier.

Kehle, R.O. (1972). Geothermal Survey of North America. 1972 Annual Progress Report for the American Association of Petroleum Geologists, vol. 23.

Lachenbruch, A.H. (1968). Preliminary Geothermal Model of the Sierra Nevada. Journal of Geophysical Research. vol. 73, no.22. pp. 6977 – 6989.

Lachenbruch, A.H. (1970). Crustal Temperature and Heat Productivity: Implications of the Linear Heat Flow Relation. Journal of Geophysical Research, vol. 75, pp. 3291-3300.

Luza, K.V., Harrison, W.E., Laguros, G.A., Prater, M.L., Cheung, P.K. (1984). Geothermal Resources and Temperature Gradients of Oklahoma. Oklahoma Geological Survey Map GM-27, scale 1:500,000.

Morgan, P. and Gosnold, W.D. (1989). Heat Flow and Thermal Regimes in the Continental United States. Pakiser, L.C. and Mooney, W.D., eds. Geophysical Framework of the Continental United States. Geological Society of America, vol. 172, pp. 493-519.

Nathenson, M., and Guffanti, M. (1988). Geothermal Gradients in the Conterminous United States. Journal of Geophysical Research, vol. 93, no. B6, pp. 6437-6450.

New York State Department of Environmental Conservation (NYSDEC). (2011). Oil and Gas Searchable Database. Retrieved February 2011 from <http://www.dec.ny.gov/cfmx/extapps/GasOil/search/wells/index.cfm>.

Orlo, E. C. (1985). Correlation of Stratigraphic Units in North America: Correlation Chart Series.The American Association of Petroleum Geologists Bulletin. v.69, no.2, pp. 173-180.

Pennsylvania, Department of Conservation and Natural Resources (PA, DCNR). (2012). Subsurface Rock Correlation Diagram: Oil and Gas Producing Regions of Pennsylvania. Bureau of Topographic and Geologic Survey. <http://www.dcnr.state.pa.us/topogeo/drc/drcdiagram.aspx>.

Reber, T. (2013). Evaluating Opportunities for Enhanced Geothermal System (EGS) – Based District Heating in New York and Pennsylvania. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Roy, R.F., Blackwell, D.D., Birch, F. (1968). Heat Generation of Plutonic Rocks and Continental Heat Flow Provinces. Earth and Planetary Science Letter, pp. 1-12. North-Holland Publishing Comp., Amsterdam.

Roy, R.F., Blackwell D.D., Decker, E.R. (1972). Continental Heat Flow. The Robertson, E.C., ed. The Nature of the Solid Earth. McGraw-Hill Book Co., New York. pp. 506-543.

Sass, J.H. and Munroe, R.J. (1974). Basic Heat Flow Data from the United States. U.S. Geological Survey. Open-File Report, pp. 74-79.

Schoeppel, R. J. and Gilarranz, S. (1966). Use of Well Log Temperatures to Evaluate Regional Geothermal Gradient. Society of Petroleum Engineers (SPE) Annual Fall Meeting, Denver, Colorado.

Shope, E. N., Reber, T. J., Stutz, G. R., Aguirre, G. A., Jordan, T. E., Tester, J. W. (2012). Geothermal resource assessment: A detailed approach to low-grad resources in the states of New York and Pennsylvania. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Shope. E.N. (2012). A Detailed Approach to Low-Grade Geothermal Resources in the Appalachian Basin of New York and Pennsylvania: Heterogeneities within the Geologic Model and their effect on Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Smith, D.L., Gregory, R.G., Emhof, J.W. (1981). Geothermal Measurements in the Southern Appalachian Mountains and Southeastern Coastal Plains. American Journal of Science, . 328, p.282-298.

SMU Geothermal Lab. (2008). Regional Geothermal Database of U.S. Geothermal Resources. Southern Methodist University. http://smu.edu/geothermal/georesou/resource.htm

Spicer, H. C. (1964). A Compilation of Deep Earth Temperature Data: USA 1910-1945. U.S. Geological Survey Open File Report, pp. 64-147.

Stutz, G. R., Williams, M., Frone, Z., Reber, T. J., Blackwell, D., Jordan, T., Tester, J. W. (2012). A Well by Well Method for Estimating Surface Heat Flow to Analyze the Geothermal Energy Resource Potential of the United States. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Stutz, G. R. (2012). Development, Analysis, and Application of a Well by Well Method for Estimating Surface Heat Flow for Regional Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Tester, J. W., Drake, E. M., Driscoll, M. J., Golay, M. W., Peters, W. A. (2005). Sustainable Energy Choosing Among Options. Massachusetts Institute of Technology (MIT). The MIT Press, Cambridge, Massachusetts.

Tester, J.W., Anderson, B.J., Batchelor, A.S., Blackwell, D.D., DiPippo, R., Drake, E.M., Garnish, J., Livesay, B., Moore, M.C., Nichols, K., Petty, S., Toksöz, M.N., Veatch, R.W., Jr. (2006). The Future of Geothermal Energy: Impacts of Enhanced Geothermal Systems (EGS) of the United States in the 21st Century. An assessment by an MIT-led interdisciplinary panel. Massachusetts Institute of Technology.

CHAPTER 4

GEOLOGY OF THE APPALACHIAN BASIN OF NEW YORK AND PENNSYLVANIA

4.1 Introduction

The objectives of this chapter are to provide a geological and geophysical review of the Appalachian Basin of New York and Pennsylvania. Variations in rock types, geological formations and structures, and gravity and magnetic geophysical surveys can help explain geothermal anomalies in the region.

Sedimentary basins, such as the Appalachian Basin Province in the United States, the Paris Basin in France, and the Western Canada Sedimentary Basin are all known for their low temperature regime. Nonetheless, some sedimentary basins have proven to be economically feasible for low-grade geothermal development (Hodge, 1996).

The Paris Basin is a good example of a low temperature sedimentary basin that has been successfully developed for geothermal district heating purposes since the 1970s (Castillo and Ignatiadis, 2012). The Paris Basin has geothermal gradients ranging from 20 - 50 ˚C/km, and temperatures in the range of 56 - 80 ˚C at depths of 1.4 - 2 km (Rojas et al., 1989; Hodge, 1996; Ungemach et al., 2005; 2011).

The Western Canada Sedimentary Basin has similar thermal gradient characteristics to the Paris Basin. It is believed to have surface heat flows ranging from 40 - 80 mW/m^2 (Bachu and Burwash, 2008). The Appalachian Basin of New York and Pennsylvania has similar geological characteristics to the Western Canada Sedimentary Basin. Both basins can expect geothermal regimes of maximum temperatures to occur at the top of the Precambrian Basement due to radiogenic heat production of basement rocks (Hodge, 1996; Bachu and Burwash, 2008).

The study of geothermal resources in the Appalachian Basin of New York and Pennsylvania would benefit from an understanding of the geological and geophysical settings of the region. Understanding the geology of the region is crucial in the attempt to describe geothermal gradients and surface heat flow patterns. It allows for identification of geologic formations or rock types that could possess high potential for recovery of geothermal heat. Geophysical parameters such as gravity and magnetic surveys could indicate zones where thermal alteration has occurred, or where intrusive bodies or deep structures exist. This chapter discusses the geology, basin structure, and geophysical characteristics of the Appalachian Basin of New York and Pennsylvania.

4.2 Geology

The geology of the Appalachian Basin of New York and Pennsylvania is mostly characterized by sedimentary formation units from the Paleozoic Era (542 – 251 m.y.a). In New York State, the northwestern and north central regions consists of Cambrian (541 – 485 m.y.a.) and Ordovician units (444 – 472 m.y.a.) progressively changing from north to south into the Silurian (416 – 444 m.y.a.) and ultimately into Devonian units (354 – 417 m.y.a.), as shown in Figure 4.1. For the Cambrian, Ordovician, and Silurian units, primary rock types include dolostone, carbonates, shales and limestones. Devonian primary rock types include sandstones, shales, and siltstones, as shown in Figure 4.2 (Berg et al., 1980; NYS Museum and NYS Geological Survey, 1999; O'Neill and Hoskins, 1999; PA DCNR, 2001; Gold et al., 2005; USGS, 2005; Dickens et al., 2008).

The Appalachian Basin in Pennsylvania consists of Devonian units (354 – 417 m.y.a.) apparent in the northwestern and northeastern portion of the state, and progressively changes into Mississippian (323 – 354 m.y.a.) and Pennsylvanian (290 – 323 m.y.a.) units to the south. The unit formation at the southwestern corner of Pennsylvania changes to a mixture of Pennsylvanian and Permian units, as shown in Figure 4.1. Primary rock types for the Devonian units in Pennsylvania include sandstones, shales, and siltstones. Primary rock types for the Mississippian, Pennsylvanian, and Permian units include sandstones, limestones, shale, siltstones, and conglomerates, as shown in Figure 4.2 (Berg et al., 1980; NYS Museum and NYS Geological Survey, 1999; O'Neill and Hoskins, 1999; PA DCNR, 2001; Gold et al., 2005; USGS, 2005; Dickens et al., 2008).

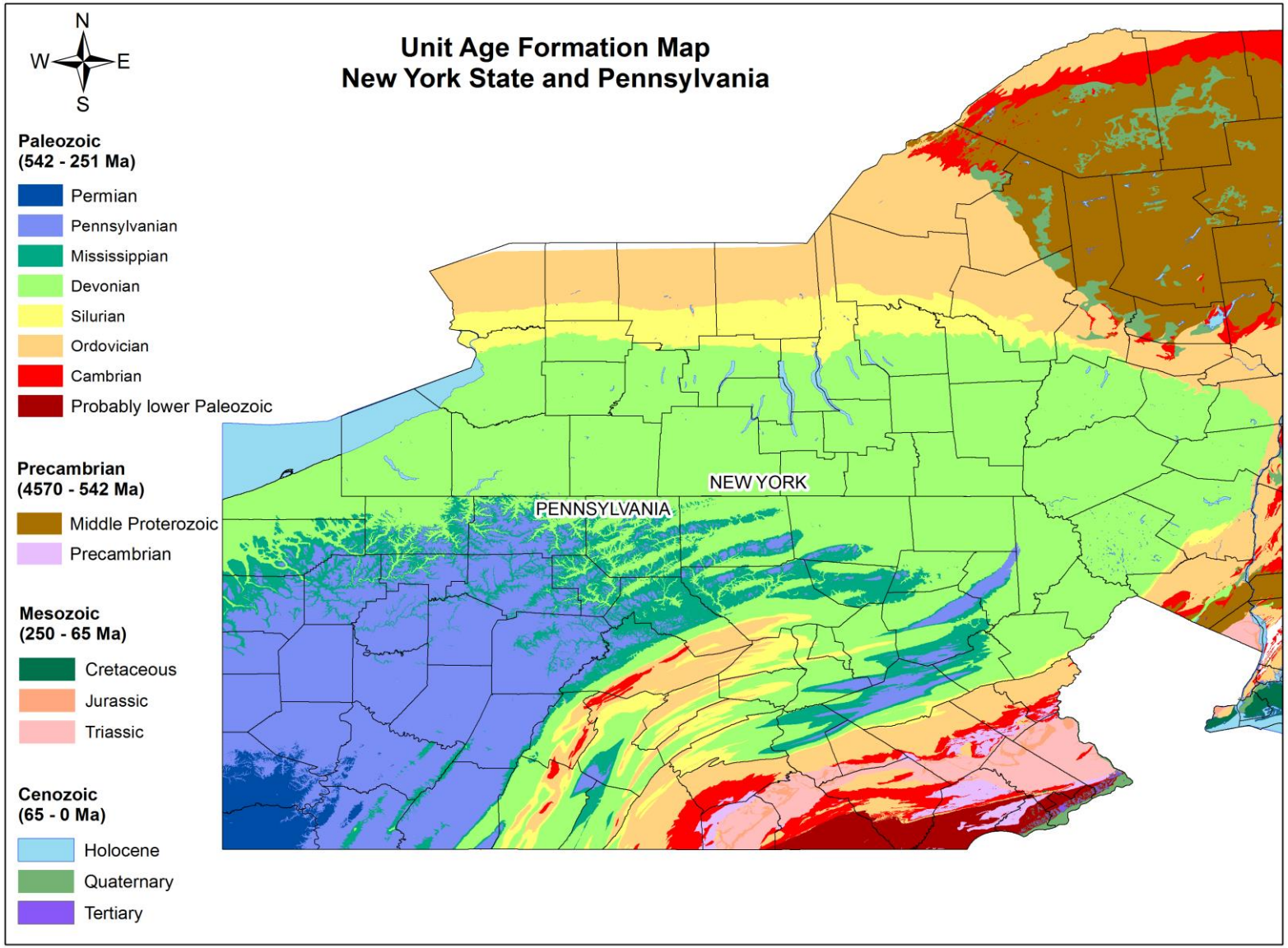


Figure 4.1: Unit Age Formation Map for the Appalachian Basin of New York and Pennsylvania. *Original sources: Berg et al., 1980; NYS Museum and NYS Geological Survey, 1999; O'Neill and Hoskins, 1999; PA Bureau of Topographic and Geologic survey, PA DCNR, 2001; Gold et al., 2005; USGS, 2005; Dickens et al., 2008. Several formation types included in USGS (2005) state maps were combined to obtain this New York – Pennsylvania Unit Age Formation Map.*

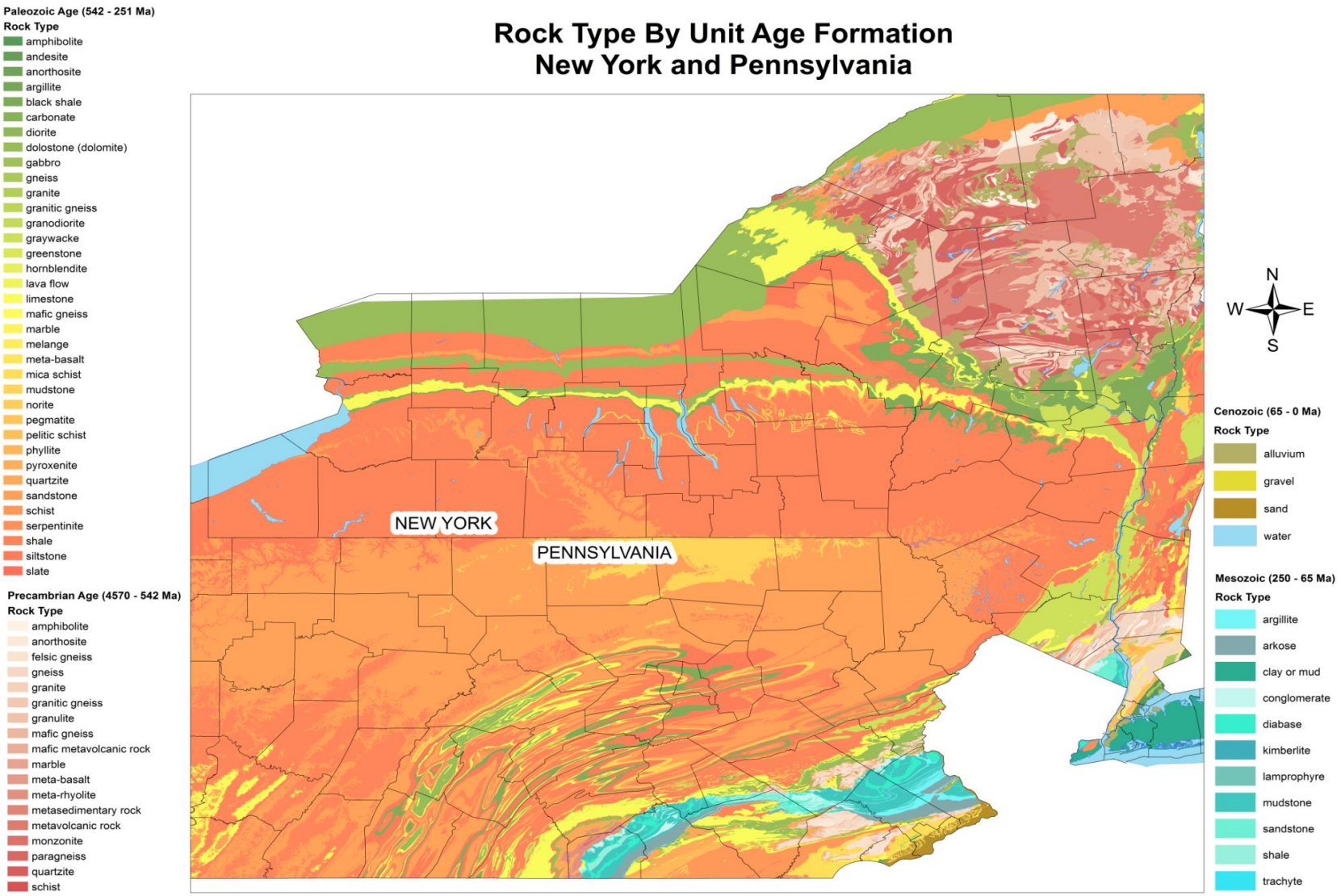


Figure 4.2: Rock Type by Unit Age Formation Map for the Appalachian Basin of New York and Pennsylvania. *Original Sources: Berg et al., 1980; NYS Museum and NYS Geological Survey, 1999; O'Neill and Hoskins, 1999; PA Bureau of Topographic and Geologic survey, PA DCNR, 2001; Gold et al., 2005;USGS, 2005; Dickens et al., 2008. Several formation types included in USGS (2005) state maps were combined to obtain this New York – Pennsylvania Rock Type by Unit Age Formation Map.*

Sediment thickness in the Appalachian Basin of New York and Pennsylvania, shown in Figure 4.3, ranges from 0 – 10 km in thickness, and increases from southeast New York to the western border of the Appalachian Mountains in Pennsylvania. In most areas of western and central New York, depth to Precambrian basement is 2 – 3.5 km. In Pennsylvania, sediment thickness increases from 2.5 km in the northwestern corner to about 5.5 km towards the end of the Appalachian Mountains (AAPG, 1978; Orlo, 1985).

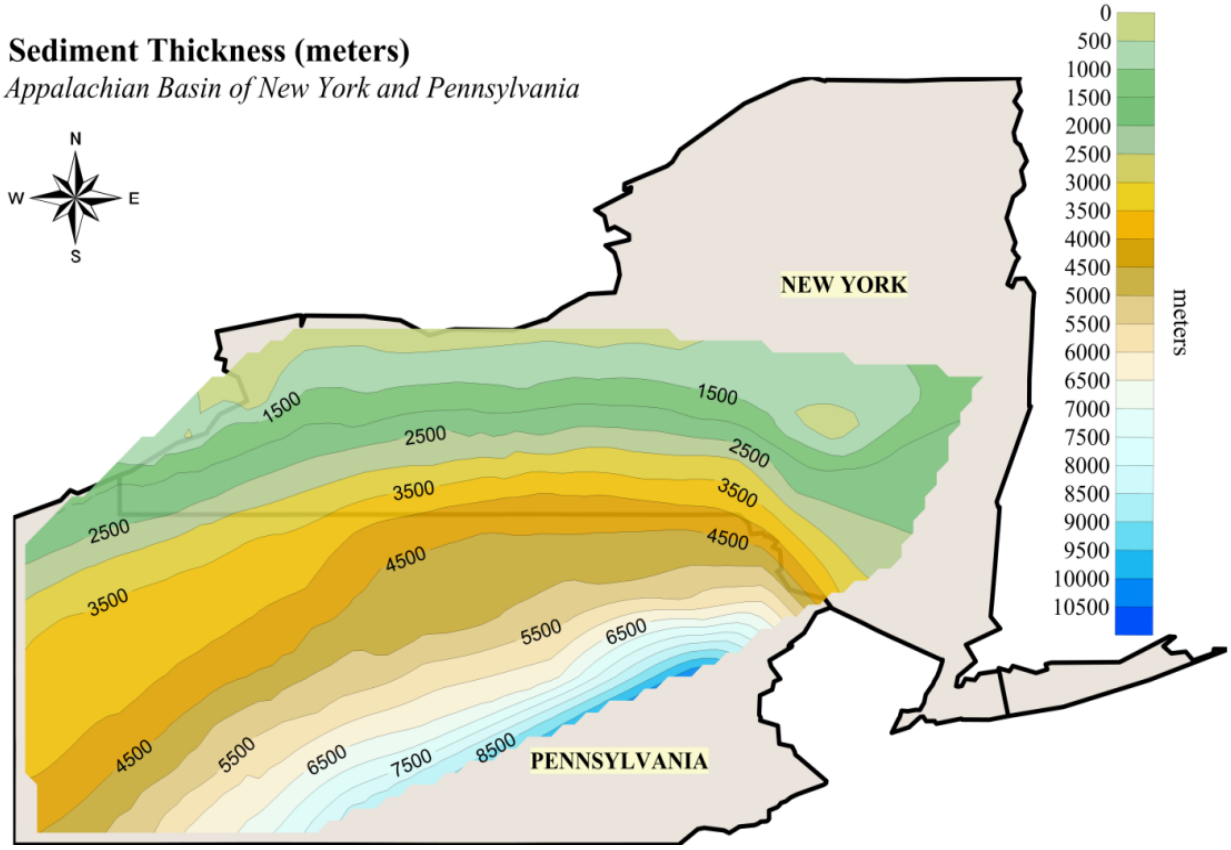


Figure 4.3: Sediment thickness showing depth (m) to basement rock from the surface in the Appalachian Basin of New York and Pennsylvania. The map was created from the *Basement map of North America* published by the American Association of Petroleum Geologists (AAPG, 1978; Orlo, 1985).

Based on Hodge et al. (1981), Hodge and Fromm (1984), and Hodge (1996) geothermal target formations can be expected at the base of the sedimentary units. Specifically, the Little Falls, Galway, and Potsdam (also known as Theresa) formations from the Cambrian units in New York State can be expected to have the highest potentials. Cambrian rocks seem to contain appropriate porosity and permeability from extensive fracturing to hold suitable amounts of geothermal fluids (Pferd, 1981; Hodge et al., 1981; Hodge and Fromm, 1984; Hodge, 1996). The Potsdam/Theresa formation can reach temperatures as high as 130 ˚C, and can reach 10% porosity in certain regions of New York State. The Potsdam/Theresa formation can range in depths from 600 m in north central New York to 3,000 m in south central New York (Hodge, 1996).

According to Pferd (1981), areas in New York State with higher potential for geothermal fluids are evident in central New York, including Cayuga, Tompkins, and Tioga counties. A regional and county map of New York State and Pennsylvania can be found in Appendix B. Pferd (1981) suggests that western New York and shallower portions of the Appalachian Basin might encounter similar geothermal fluids. Nonetheless, areas in eastern New York and deeper portions of the Appalachian Basin might not be as suitable because of lower porosity levels (Pferd, 1981).

In Pennsylvania, previous studies have suggested areas of higher geothermal potential in several northwestern counties including Venango and Clarion attributed to convective heat flow from the upper crust of the Precambrian basement (Cannon et al., 1980; Eckstein et al., 1982). Eckstein et al. (1982) suggests the possibility of higher heat flow areas resulting from high radioactive shales in Mississippian and Pennsylvanian units.

4.3 Faults, Lineaments and Structures

Even though the Appalachian Basin of New York and Pennsylvania is not known as being seismically active, the presence of faults, lineaments, and trends suggest possible reactivation of faults (Jacobi, 2002). Faults and lineaments are of interest because they represent fractures zones where permeability is enhanced (Wheeler, 1980; Southworth, 1986). Lineaments often indicate areas where faulting is possible (Podwysocki, 1982). These features have been explored as targets for oil and gas, as well as for groundwater flow (Wheeler, 1980; Southworth, 1986).

A seismically active major fault system in New York State is the Cambrian-aged Claredon - Lindon fault system (CLF) crossing several counties in the western portion of the state, as shown in Figure 4.4 (Rickard, 1973; Pferd, 1981; Hodge, 1996; Jacobi, 2002). According to Pferd (1981), the CLF appears to have enhanced porosity, which has led to some of the highest fluid flow in the vicinity of the system (Rickard, 1973; Van Tyne, 1975; Pferd, 1981; Jacobi, 2002). Other systems include an Ordovician-aged normal fault east of the CLF system, as well as a horst and graben in central New York also belonging to the Ordovician units (Jacobi, 2002). A horst represents an uplifted block and a graben a dropped block that are bounded by normal faults.

Jacobi (2002) identified the Base Island Trend located along Erie County in Pennsylvania and Chautauqua County in New York State, as a series of thrusts faults possibly from the Silurian units that might have formed from Iapetan rift faults from the Precambrian basement. The South Branch Fault located in Cattaraugus County in New York State has been identified by Jacobi (2002) as a fault that has undergone intensive fracturing (see Figure 4.4).

In Pennsylvania, Lavin et al. (1982) identified the Pittsburgh – Washington Lineament and the Tyron – Mount Lineament as part of a crustal block called the Lake Erie – Maryland (LEM) which displaced laterally during the early Ordovician (Lavin et al., 1982; Southworth, 1986). King and Zietz (1978) identified the New York - Alabama Lineament as the possible displacement of a crustal block causing discontinuities in the Precambrian Basement (King and Zietz, 1978; Southworth, 1986).

The Everett – Bedford lineament is described as a structural discontinuity originating in the Precambrian Basement (Gold and Parizek, 1976; Abriel, 1978; Gold et al., 1978; O'Neill and Hoskins, 1999). Another major lineament is the Lawrenceville – Attica Lineament thought to be a result of southwest extension of the Folsomdale fault in northern Pennsylvania (Wallach et al., 1998; Jacobi, 2002). The Lawrenceville – Attica Lineament is of interest as it terminates at a well-known gravity anomaly thought to be the result of the intrusion of kimberlites (Jacobi 2002). Hodge (1996) suggests a possible link between kimberlites intrusion, thermal anomalies, and groundwater flow.

The Rome trough in Pennsylvania forms a series of Cambrian-aged faults thought to have sporadic reactivations (Harper, 1989; Riley et al., 1993; Beardsley et al., 1999; Harper et al., 1999; Jacobi, 2002). Previous studies have suggested a link between thermal gradient anomalies and convective fluid flow or excess heat generation from radiogenic granitic plutons in the Precambrian basement (Shope, 2012).

4.4 Geophysics: Gravity and Magnetic Anomalies

Geophysical parameters, including gravity and magnetic anomalies, are useful in defining possible geothermal reservoirs. Gravity surveys investigate changes in the density of subsurface rocks, often called gravity anomalies. Mariita (2007) describes possible gravity anomalies resulting from intensive faulting, areas of volcanism, and geothermal activity. Magnetic surveys investigate changes in the magnetic properties of the subsurface rocks, often called magnetic anomalies. Based on Mariita (2007), possible magnetic anomalies could be the result of the intrusion of dikes, faults, and possibly lava flows.

In Figure 4.4, the Bouger gravity anomaly map from Kucks (1999) and USGS (2013), with geological structures from Southworth (1986) and Jacobi (2002), was used to describe the gravity anomalies in New York State and Pennsylvania. In Figure 4.5, the Magnetic anomaly from Bankey et al. (2002) and USGS (2012), with geological structures from Southworth (1986) and Jacobi (2002), was used to describe the magnetic anomalies in New York State and Pennsylvania.

From Figure 4.4, a prominent gravity high anomaly often referred to as the Scranton gravity high, runs from northeastern Pennsylvania to southeastern New York. The Scranton gravity high anomaly crosses through the Lawrenceville – Attica Lineament, and is adjacent to several inferred basement faults and the well-known Rome trough (Jacobi, 2002).

Perd (1981) suggests a spatial correlation between lineaments and gravity anomalies in zones where deep fracturing has occurred. Based on Eckert and R.J. (1985), the Scranton gravity high anomaly might have been the site of asthenospheric upwelling during the development of the Rome trough or Iapetan rift faulting (Dimenti et al., 1980; Eckert and R.J., 1985;

Jacobi, 2002). In addition, Jacobi (2002) suggests a possible links between the Scranton gravity high fault area and three known seismic events that occurred in southeastern New York.

A gravity high anomaly has been recorded in the Claredon - Lindon fault system (CLF) in western New York; see Figure 4.4 (Jacobi, 2002). According to Jacobi (2002), the CLF has also experienced seismic events, which could help explain the gravity anomaly. Other gravity high anomalies appear in areas where basement faults are inferred or Cambrian and Ordovician-aged growth faults are thought to exist (Jacobi, 2002). Regions of gravity low anomalies have been reported along trends and lineaments, as shown in Figure 4.4. Based on Hodge et al. (1981), gravity low anomalies in the Appalachian Basin of New York and Pennsylvania can often be found over granitic rocks versus gravity high anomalies often found over gabbroic igneous rocks. Hodge et al. (1981) suggests a link between gravity lows and thermal anomalies due to excess heat generation from granitic rock in the Precambrian basement.

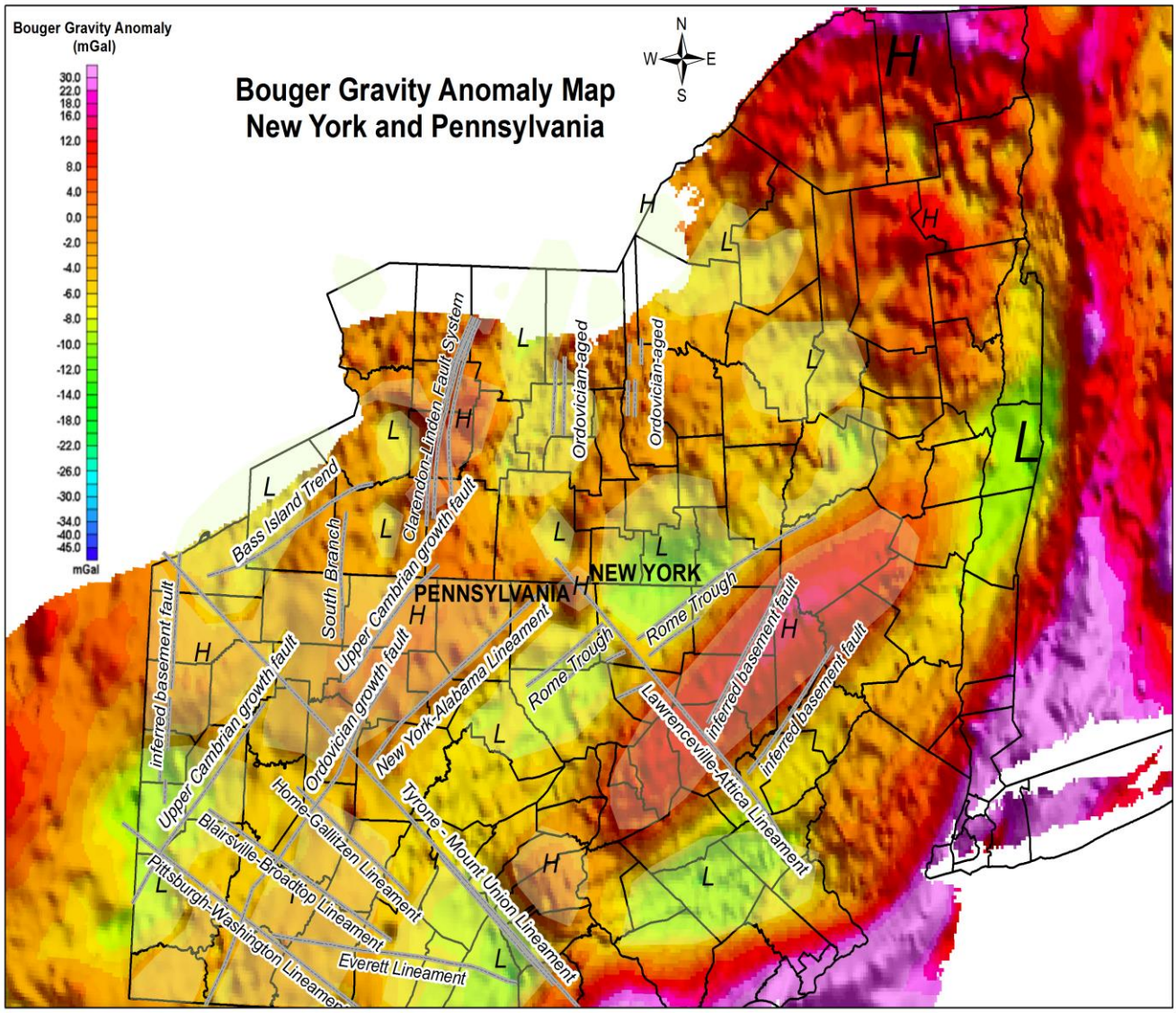


Figure 4.4: Bouger Gravity Anomaly Map of the Appalachian Basin of New York and Pennsylvania. *Sources: Southworth, 1986; Kucks, 1999; Jacobi, 2012; USGS, 2012.*

In Figure 4.5, the Appalachian Basin of New York and Pennsylvania exhibit areas of relatively high and low magnetic anomalies. A series of magnetic highs appear along the Rome trough in northeastern Pennsylvania and southeastern New York (Jacobi, 2002). Areas with high magnetic anomalies could indicate regions underlain by Precambrian basement (Eckstein et al., 1982). Other areas with relatively high magnetics include the South Branch Fault in Cattaraugus County in New York State, which is thought to act as a marker indicating the presence of other faults involving Precambrian basement (Jacobi, 2002).

The Clarendon – Linden Fault system (CLF) also displays a region of relatively high magnetics thought to be related to Precambrian basement involvement (Jacobi, 2002). The high magnetic anomaly shown along the Attica lineament possibly suggests the presence of a relatively shallow mafic body (Jacobi, 2002). The presence of a sharp magnetic high anomaly in the Ithaca, New York area suggests the potential intrusion of a peridotite dike (Podwysocki et al., 1982).

Sedimentary units tend to have lower magnetic susceptibility than regions of metamorphic or igneous rocks because of the presence of magentite (Mariita, 2007). According to McLain (1981), areas of low magnetics could indicate deep structural depressions of sedimentary units. Other explanations for low magnetic areas include the possibility of hydrothermally altered zones from reversed polarized material, such as magnetite or pyrite, shaping the basement rock (McLain, 1981; Stone et al., 2004). According to Jacobi (2002), regions with fault presence, but no significant magnetic anomalies, could indicate the presence of thrust faults existing mainly above Silurian units.

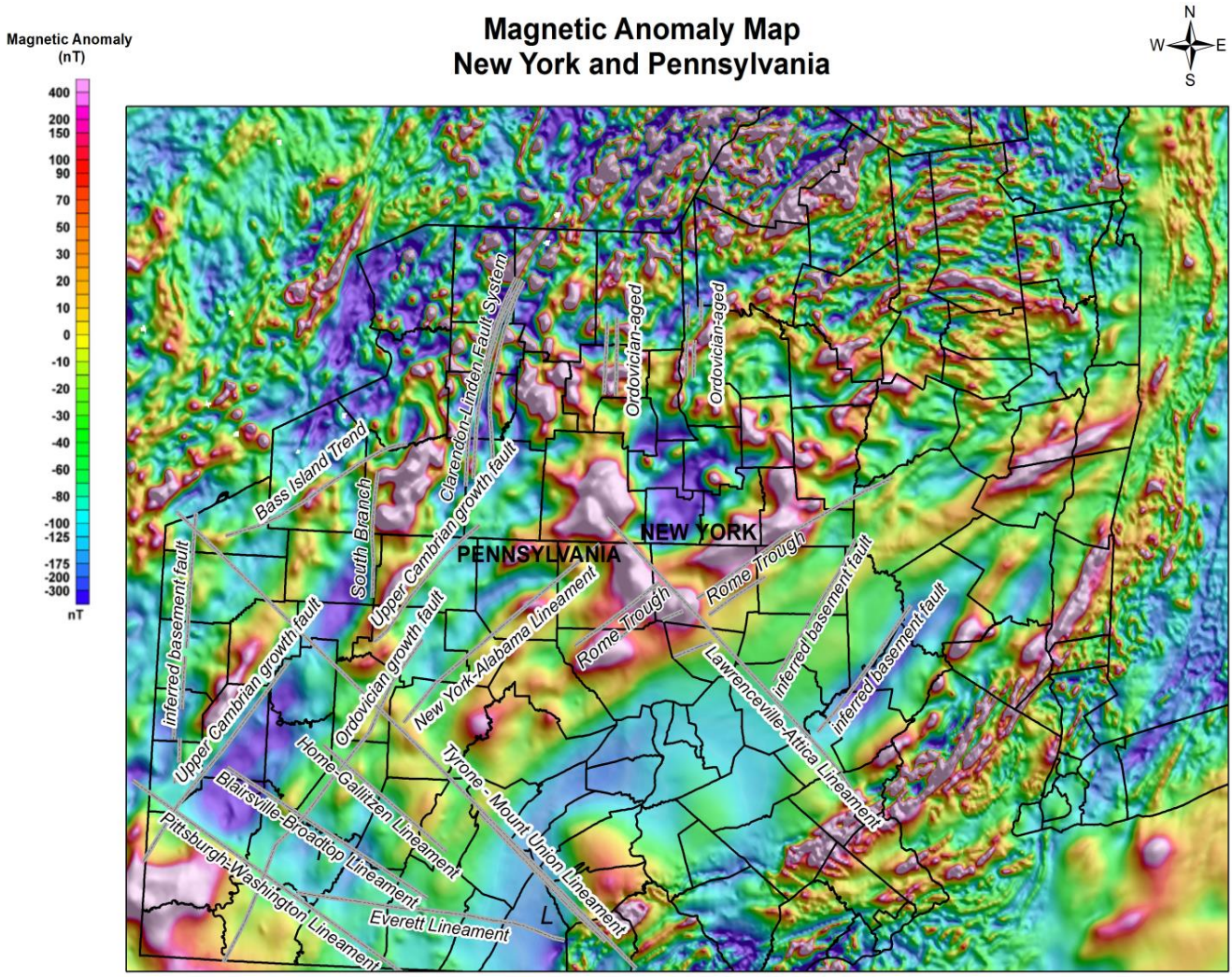


Figure 4.5: Magnetic Anomaly Map of the Appalachian Basin of New York and Pennsylvania. *Sources: Southworth, 1986; Bankey et al., 2012; Jacobi, 2012; USGS, 2012.*

4.5 Conclusions

The characterization of geothermal resources involves knowledge on the basin's geological properties. The inherent geology of a region could indicate formations or rock types with higher potential for geothermal heat and/or power production. Some formations and rock types show enhanced porosity and permeability from natural fracturing that could yield sufficient amounts of geothermal fluids.

Even though sedimentary basins, such as the Appalachian Basin Province in the United States, are known for low temperature regimes, other low temperature basins around the world have proven to be economically feasible for low-grade geothermal development (Hodge, 1996). The Paris Basin in France is an example of a sedimentary basin that has been successfully developed for district heating purposes (Castillo and Ignatiadis, 2012). In the Appalachian Basin of New York and Pennsylvania, geothermal targets are expected to be reached at the base of sedimentary units. Hodge (1996) proposed geothermal targets in the Potsdam/Theresa formation from Cambrian units because of possible temperatures as high as 130 ˚C, and formation porosity reaching 10% in certain regions of New York State.

The Cambrian-aged Claredon - Lindon fault system (CLF) in New York State appears to be seismically active and shows enhanced porosity (Rickard, 1973; Van Tyne, 1975; Pferd, 1981; Jacobi, 2002). In addition, the Lawrenceville – Attica Lineament across several counties in Pennsylvania and New York State crosses a well-known gravity anomaly thought to be the result of the intrusion of kimberlites (Jacobi, 2002). A possible link has previously been suggested between kimberlite intrusions and thermal anomalies (Hodge, 1996). Eckstein et al. (1982) explains certain areas of higher heat flow in Pennsylvania resulting from high radioactive shales belonging to the Mississippian and Pennsylvanian units. In addition to formation and rock types, other parameters such as basin structural characteristics and geophysical features play an important role in explaining the presence of geothermal anomalies.

Variations in rock types, geological formations and structures, and gravity and magnetic geophysical anomalies are further discussed in Chapters 6 and 7 to help explain geothermal anomalies in the Appalachian Basin of New York and Pennsylvania.

REFERENCES

AAPG. (1978). Basement Map of North America. The American Association of Petroleum Geologists, scale 1:5,000,000.

Abriel, W.L. (1978). A Ground-Based Study of the Everett-Bedford Lineament in Pennsylvania. State College, Pa. Pennsylvania State University, M.S. thesis, 98 p.

Bachu, S. and Burwash, R. A. (2008). Chapter 30 – Geothermal Regime in the Western Canada Sedimentary Basin. Alberta Geological Society, Canada.

Bankey, V., Cuevas, A., Daniels, D., Finn, C.A., Hernandez, I., Hill, P., Kucks, P., Miles, W., Pilkington, M., Roberts, C., Roest, W., Rystrom, V., Shearer, S., Snyder, S., Sweeney, R., Velez, J., Phillips, J.D., Ravat, D. (2012). Digital Data Grids for the Magnetic Anomaly Map of North America. U.S. Geological Survey Open-File Report: 02-414. Denver, Colorado, U.S.A. < http://mrdata.usgs.gov/metadata/usaeromag.html#1>

Beardsley, R.W., Campbell, R.C., Shaw, M.A. (1999). Appalachian Plateaus. In: Schultz, C.H. (Ed.), The Geology of Pennsylvania. Pennsylvania Geological Survey, Harrisburg, PA, pp. 287– 297.

Berg, T. M., Edmunds, W. E., Geyer, A. R., et al. (1980). Geologic Map of Pennsylvania. Pennsylvania Geological Survey. 4th ser., Map 1, 2nd ed., 3 sheets, scale 1: 250,000.

Cannon, M.S., Tabet, C.A., Eckstein, Y. (1980). A Low Enthalpy Convective System in Western Ohio. Geothermal Resources Council. Trans., vol.4, pp. 105-108.

Castillo, C. and Ignatiadis, I. (2012). Sulfate – Reduction State of the Geothermal Dogger Aquifer, Paris Basin (France) After 35 Years of Exploitation: Analysis and Consequences of Bacterial Proliferation in Casings and Reservoir. PROCEEDINGS, Thirty-Seventh Stanford Geothermal Workshop. Stanford, CA, January 30 - February 1, 2012.

Dickens, C.L., Nicholson, S.W., Horton, J.D., Kinney, S.A., Gunther, G., Foose, M.P., A.L., J. (2008). Preliminary Integrated Geologic Map Database for the United States. United States Geological Survey. Open-File Report (2005-1325). Retrieved: July 2012.

Dimenti, W.H., Urban, T.C., and Revetta, F.A. (1972). Some Geophysical Anomalies in Eastern United States. The Nature of the Solid Earth New York (McGraw Hill), pp. 544-572.

Diment, W.H., Muller, O.H., Lavin, P.M. (1980). Basement Tectonics of New York and Pennsylvania as Revealed by Gravity and Magnetic Studies. In: Wones, D.R. (Ed.), Proceedings of ‘‘The Caledonides in the USA’’. Memoir—Virginia Polytechnic Institute, vol. 2. Department of Geological Sciences, Blacksburg, VA, pp. 221– 227.

Eckert Jr. and R.J. (1985). Spatial domain filtering of the Bouguer gravity field of Northeastern North America. State University of New York at Buffalo, Master's Thesis, 80 pp.

Eckstein, Y., Heimlich, R. A., Palmer, D.F., Shannon, Jr., S. S. (1982). Geothermal Investigations in Ohio and Pennsylvania. Los Alamos National Laboratory. LA—9223-HDR, DE82 016129.

Gold, D.P. and Parizek, R.R. (1976). Field gGide to Lineaments and Fractures in Central Pensylvania. 2nd International Conference on the Basement Tectonics, University of Delaware, Newark, July 13-18, 1976. 75 pp.

Gold, D. P., Alexander, S. S., Parizek, R. R. (1978). Major Cross-Strike Structures in Pennsylvania. Geological Society of America Abstracts with Programs. vol. 10, no. 4, pp. 170.

Gold, D.P., Alexander, S.S., Cakir, R., Doden, A.G., Root, S.I. (2005). Precambrian Basement Map of the Appalachian Basin and Piedmont Province in Pennsylvania. Version 1.0. Pennsylvania Department of Conservation and Natural Resources. Retrieved: July 2012. < http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016250.pdf>

Harper, J.A. (1989). Effects of Recurrent Tectonic Patterns on the Occurrence and Development of Oil and Gas Resources in western Pennsylvania. Northeast. Geol. vol. 11, pp. 225–245.

Harper, J.A., Kelley, D.R., Linn, E.H. (1999). Petroleum—Deep Oil and Natural Gas. In: Shultz, C.H. (Ed.), The Geology of Pennsylvania. Pennsylvania Geological Survey, Harrisburg, PA, pp. 507– 529.

Hodge, D. S., De Rito, R., Hifiker, K., Morgan, P., Swanberg, C. A. (1981). Investigations of Low-Temperature Geothermal Potential in New York State. Los Alamos National Laboratory. State University of New York at Buffalo. Department of Geological Sciences.

Hodge, D.S. and Fromm, K. (1984). Heat Flow and Subsurface Temperature Distribution in Central and Western New York. State University of New York at Buffalo. Department of Geological Sciences.

Hodge, D.S. (1996). Assessing Geothermal Energy Potential in Upstate New York. State University of New York at Buffalo. Department of Geological Sciences. Prepared for New York State Energy Research and Development Authority, Albany, New York. Report #: LA-SUB-97-19-Pt.2

Jacobi, R.D. (2002). Basement faults and seismicity in the Appalachian Basin of New York State. Tectonophysics, vol. 353, pp. 75 – 113.

King, E. and Zietz, I. (1978). The New York-Alabama Lineament: Geophysical Evidence for a Major Crustal Break in the Basement Beneath the Appalachian Basin. Geology, vol.6, pp.312-318.

Kucks, R.P. (1999). Bouger Gravity Anomaly Data Grid for the Conterminous US. <http://mrdata.usgs.gov/services/gravity?request=getcapabilities&service=WMS&version=1.1.1>. Part of a larger work by: Phillips, J.D., Duval, J.S., Ambroziak, R.A.(1993).National Geophysical Data Grids; Gamma-Ray, Gravity, Magnetic and Topographic Data for the Conterminous United States. U.S. Geological Survey Digital Data Series DDS-9. Denver, Colorado, U.S.A. Retrieved: July 2012.

Lavin, P.M., Chaffin, D.L., Davis, W.F. (1982). Major Lineaments and the Lake Erie-Maryland Crustal Block. Tectonics, vol. 1, no.5, pp 431-440. American Geophysical Union.

Mariita, N.O. (2007). The Gravity Method. Presented at Short Course II on Surface Exploration for Geothermal Resources, organized by UNU-GTP and KenGen, at Lake Naivasha, Kenya, 2-17 November, 2007. United Nations University: Geothermal Training Programme.

McLain, W.H. (1981). Geothermal and Structural Implications of Magnetic Anomalies Observed over the Southern Oregon Cascade Mountains and Adjoining Basin and Range Province. An M.S. thesis for the Oregon State Universiy. 151 p.

New York State Museum, New York State Geological Survey, New York State Museum Technology Center. (1999). 1:250,000 Bedrock Geology of NYS, data distributed in ARC/INFO format (.e00 extension) in 5 separate files. Retrieved date: July 2012. < http://www.nysm.nysed.gov/gis.html>

O'Neill, C. E. and Hoskins, D. M. (1999). Pennsylvania Geology. Bureau of Topographic and Geologic Survey, Pennsylvania Department of Conservation and Natural Resources. vol. 30, No. 3/4.

Orlo, E. C. (1985). Correlation of Stratigraphic Units in North America: Correlation Chart Series.The American Association of Petroleum Geologists Bulletin. vol.69, no.2, pp. 173-180.

Pennsylvania Bureau of Topographic and Geologic Survey, Department of Conservation and Natural Resources (PA DCNR). (2001). Bedrock Geology of Pennsylvania. Edition: 1.0., digital map. Retrieved from internet: July 2012. <http://www.dcnr.state.pa.us/topogeo/publications/pgspub/openfile/basementmap/basementback/index.htm>

Pferd, J. W. (1981). Geology, Drill Holes, and Geothermal Energy Potential of the Basal Cambrian Rocks Units of the Appalachian Basin of New York State. Geothermal Energy

Potential in the Appalachian Basin of New York State. New York State Energy Research and Development Authority. ERDA Report 81-14.

Podwysocki, M. H., Pohn, H.A., Phillips, J.D., Krohn, M. D., Purdy, T. L., Merin, I. S. (1982). Evaluation of Remote Sensing, Geological, and Geophysical Data for South-Central New York and Northern Pennsylvania. United States Department of the Interior Geological Survey. Open-File Report 82-319.

Rickard, L. V. (1973). Stratigraphy and Structure of Subsurface Cambrian and Ordovician carbonates of New York. New York State Museum and Science Service Map and Chart Series, no. 18.

Riley, R.A., Harper, J.A., Baranoski, M.T., Laughrey, C.D., Carlton, R.W. (1993). Measuring and Predicting Reservoir Heterogeneity in Complex Deposystems. The Late Cambrian Rose Run Sandstone of Eastern Ohio andWestern Pennsylvania. Appalachian Oil and Natural Gas Research Consortium, Morgantown. pp. 257.

Rojas, J., Giot, D., Le Nindre, Y., Criaud, A., Fouillac, C., Brach, M., Menjoz, A., Martin, J.C., Lambert, M. (1989). Caracterisation et Modelisation Du Reservoir Geothermique Du Dogger Bassin Parisien, France. Comission Des Communautes Europeennes – DG XII. Institut Mixte De Recherches Geothermiques. Rapport Final, EUR 12639 FR.

Shope. E. M. (2012). A Detailed Approach to Low-Grade Geothermal Resources in the Appalachian Basin of New York and Pennsylvania: Heterogeneities within the Geologic Model and their effect on Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Southworth, C.S. (1986). Cross-Strike Structural Discontinuities and Lineaments of the Central Appalachians. Department of the Interior, U.S. Geological Survey.

Stone, V.C.A., Fairhead, J.D., Oterdoom, W.H. (2004). Micromagnetic Seep Detection in the Sudan.The Leading Edge. vol. 23, no.8. pp 734 – 737.

Ungemach, P., Antics, M., Lalos, P., Borozdina, O., Foulquier, L., Papachristou, M. (2005). Sustainable Geothermal Reservoirs Management. Paper 0517. PROCEEDINGS, World Geothermal Congress. Antalya, Turkey, 15 – 19 April 2005.

Ungemach, P., Antics, M., Lalos, P., Borozdina, O., Foulquier, L., Papachristou, M. (2011). Geomodelling and Well Architecture, Key Issues to Sustainable Reservoir Development. PROCEEDINGS, Thirty-Sixth Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California, January 31 – February 2, 2011. SGP-TR-191.

USGS. (2005). Preliminary Integrated Geologic Map Database for the United States: Delaware, Maryland, New York, Pennsylvania, and Virginia. Open File Report 2005-1325. Retrieved: July 2012. < http://pubs.usgs.gov/of/2005/1325/>

USGS. (2012). Magnetic Anomaly Maps and Data for North America. Mineral Resources On-Line Spatial Data. US Department of the Interior, US Geological Survey. Retrieved: July 2012. Retrieved: July 2012. < http://mrdata.usgs.gov/magnetic/>

USGS. (2013). Gravity Anomaly Map of the Conterminous United States. Mineral Resources On-Line Spatial Data. US Department of the Interior, US Geological Survey. Retrieved: July 2012. <http://mrdata.usgs.gov/geophysics/gravity.html>

Van Tyne, A. (1975). Subsurface Investigation of the Clarendon – Linden Structure, Western New York. New York State Museum and Science Service Open-File Report.

Wallach, J.L., Mohajer, A.A., Thomas, R.L. (1998). Linear Zones, Seismicity, and the Possibility of a Major Earthquake in the Intraplate Western Lake Ontario Area of Eastern North America. Canada Journal for Earth Science. vol. 35, pp. 762– 786.

Wheeler, R.L. (1980). Cross-Strike Structural Discontinuities: Possible Exploration Tool for Natural Gas in Appalachian Overthrust Belt. AAPG Bulletin, vol. 64, pp. 2166-2178.

CHAPTER 5

DESCRIPTIVE ANALYSIS OF WELL DATA FOR NEW YORK STATE AND PENNSYLVANIA

5.1 Introduction

The objective for this chapter is to provide a detailed description on the sources and statistical characteristics of the well data collected in the Appalachian Basin of New York and Pennsylvania. In addition, this chapter recommends methods for the detection and treatment of anomalies or outlying values within large datasets.

The temperature-depth data collected from well logs and databases consisted on a total of 8,919 wells with location coordinates and unique numeric identifiers assigned by the American Petroleum Institute (API). As it is customary for any analysis involving a large volume of data, the first step was to perform exploratory data analysis (EDA). Graphical techniques useful for EDA were implemented in this study to describe the characteristics of the well data. These techniques include use of histograms and boxplots.

EDA can allow the detection of anomalies or outlying values. Potential sources of errors resulting in anomalies or outlying values could include errors in the recording or transcription of data, including well depth, bottom-hole temperature (BHT), location, and defective or inaccurate equipment, in our case thermometers (Ruppel et al., 2005). Barnett and Lewis (1994) describe outliers as points that significantly diverge from the other values within a sample. It was appropriate to implement outlier detection techniques to find such values and reduce their impact in the interpolation and regression processes of geothermal resources in Chapters 6 and 7, respectively.

Outliers in the geothermal gradient arise from the known problems with the collected BHT measurements. Surface heat flow outliers arise from the generalizations behind the thermal conductivity model used by Blackwell et al. (2007), Stutz et al. (2012), and Stutz (2012). Geological heterogeneities, including certain formations and structures that allow for convective upward or downward flow of fluids contained in fractures, might also be responsible for the outlier classification of an observation. Besides the measurement and reporting errors in the temperature-depth dataset and geological heterogeneities of the region, varying data densities across the area can also determine the classification of an observation as an outlier because it is hard to recognize an outlier in data sparse regions.

Two types of outliers were analyzed in this study: global and local outliers. Global outliers are those that show extreme high or extreme low values relative to the entire database. Local outliers are those values that are high or low within a region. While an observation might be classified as a global outlier, when tested within its surrounding values that observation might not be a local outlier.

This chapter takes a statistical and spatial approach to outlier classification for the geothermal gradient and surface heat flow dataset in New York and Pennsylvania. More investigation is needed to determine the physical causes of these anomalies. Further studies can include developing adequate corrections for the temperature-depth dataset in the New York - Pennsylvania region, removing generalizations behind the thermal conductivity model, performing a thorough analysis on the geological heterogeneities in the region, and analyzing varying data densities across the region.

5.2 Well Data Sources and Characteristics

Data in the form of oil and gas well logs and databases were obtained from Southern Methodist University (SMU), the New York State Museum, the New York State Department of Environmental Conservation (NYSDEC, 2011), and the Pennsylvania Geological Survey. The data extracted from well logs consisted of bottom-hole temperatures (BHT's), logger's depth and/or true vertical depths (TVD's), location in the form of latitude and longitude, and API numeric identifiers. From the 8,919 data points collected, several wells had measurements with duplicate API numbers recorded at different depths. Only the deepest measurements were used for the global and local outlier analyses and the spatial interpolation and regression methods. The removal of duplicate API numbers per well reduced the dataset to 7,969 data points. The dataset containing the original 8,919 data points can be found in Appendix A. In addition, the Cornell dataset is stored and available for download through the SMU Node of the National Geothermal Data System (NGDS) website *http://geothermal.smu.edu/gtda/*.

5.3 Location of Observations

As shown in Figure 5.1, the highest well drilling activity recorded for New York State occurred in southwestern counties, including Chautauqua (2,212 wells) and Cattaraugus (438 wells). Areas of low well drilling activity are located in northwestern and north central counties, as well as in several southeastern counties in New York State. In Pennsylvania, the highest well drilling activity recorded was in Armstrong County (931 wells) and Mercer County (311 wells). Low well activity occurred in several northeastern counties. A regional and county map of New York State and Pennsylvania is provided in Appendix B.

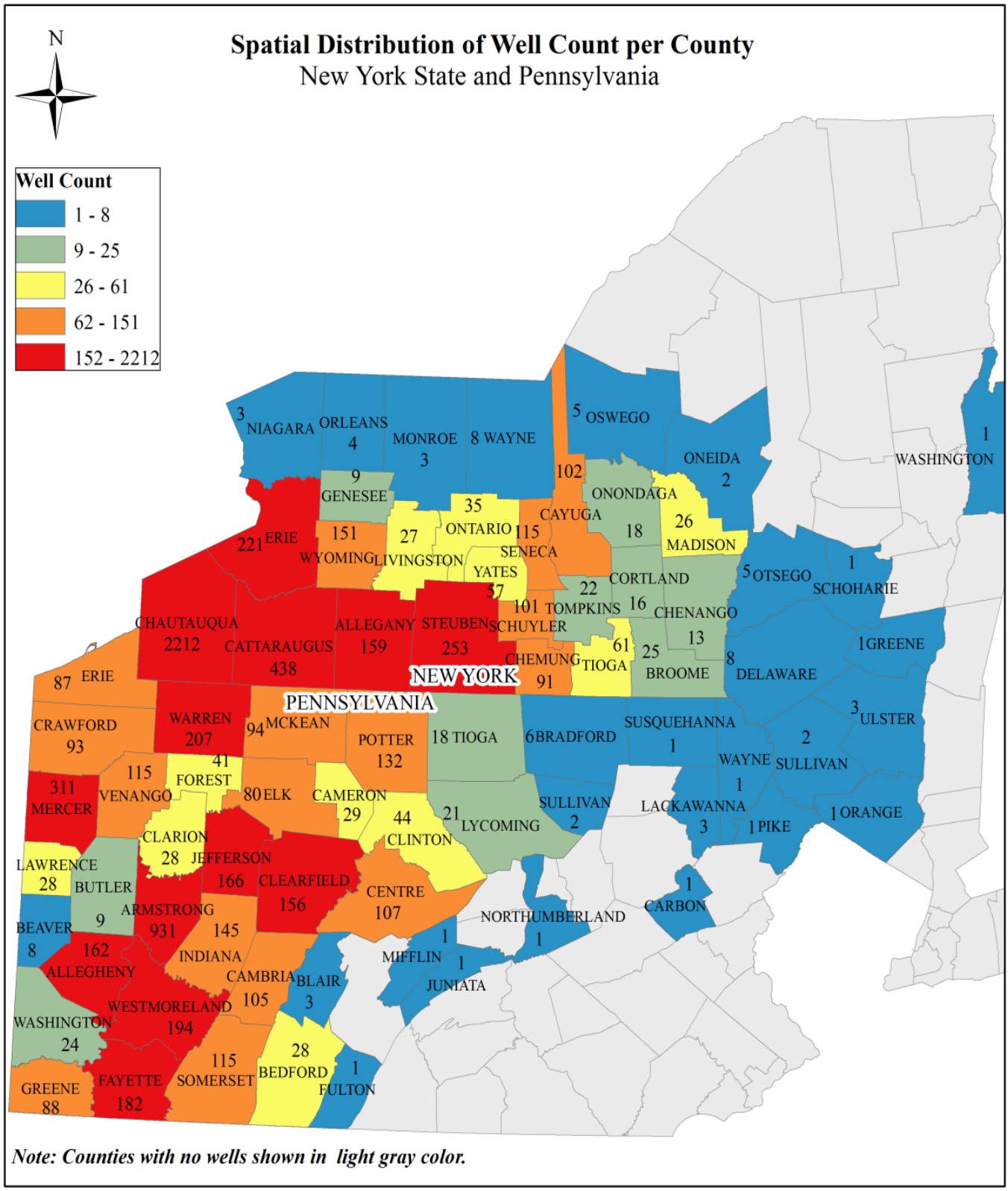


Figure 5.1: Spatial distribution of well count per county for New York State and Pennsylvania. Cooler colors represent smaller number of wells. Warmer colors represent larger number of wells drilled.

The spatial distribution of total well depth per county is shown in Figure 5.2. Deeper wells, in the range of 4 - 6 km deep, are located in south central New York, and in north central and south central Pennsylvania. Wells in the range of 3 - 4 km deep are mostly located in south central New York. Wells in the range of 2 - 3 km deep are mostly located along the eastern border of the Appalachian Basin in Pennsylvania and in south central New York. Shallower wells, with depths of 0.6 - 2 km, are more predominant in western New York and western Pennsylvania.

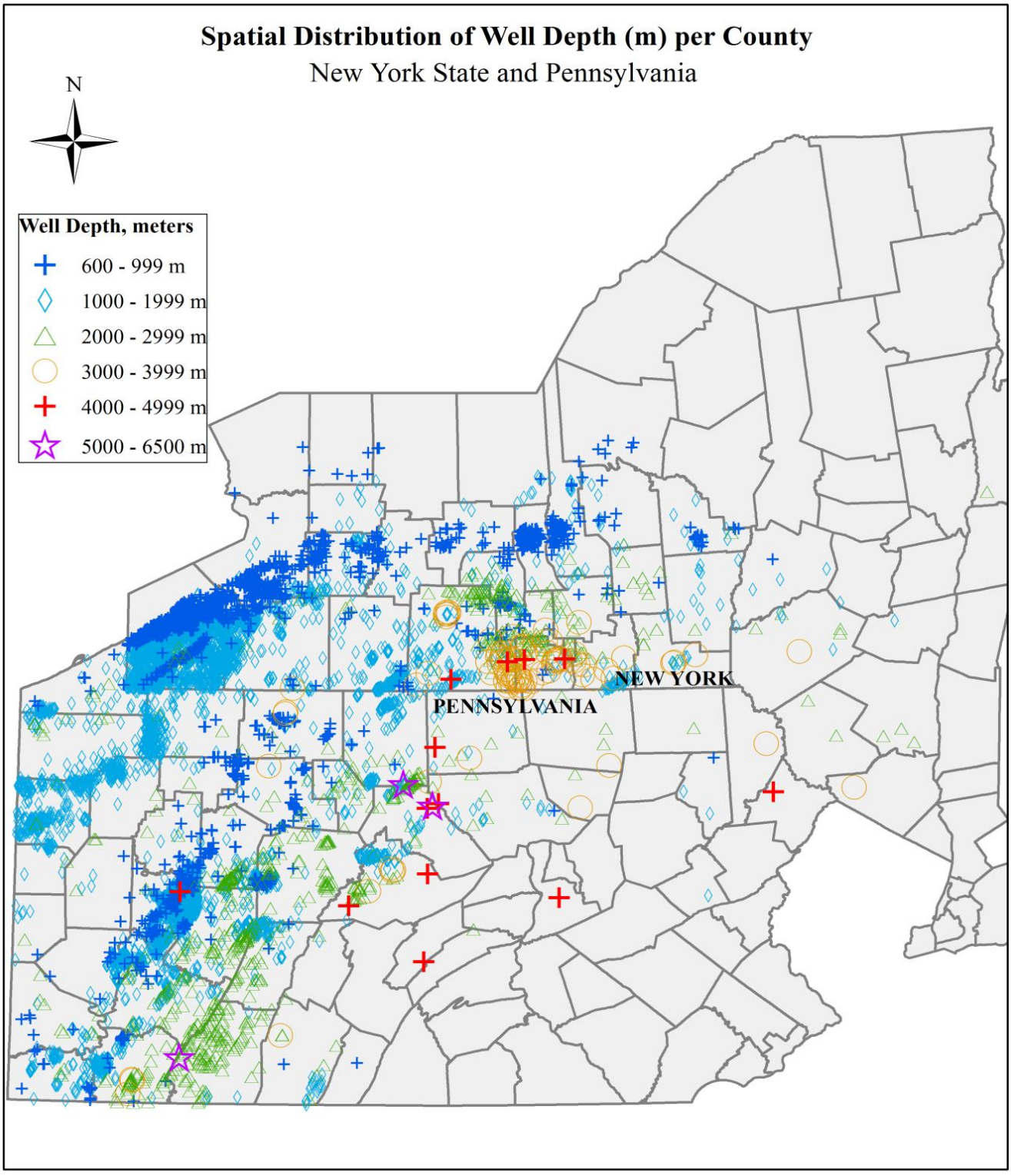


Figure 5.2: Spatial distribution of well depth per county for New York State and Pennsylvania. Dark blue cross hairs represent well depths in the range of 600 – 999 m. Light blue open diamonds represent well depths in the range of 1,000 – 1,999 m. Light green open triangles represent well depths in the range of 2,000 – 2,999 m. Orange open circles represent well depths in the range of 3,000 – 3,999 m. Red cross hairs represent well depths in the range of 4,000 – 4,999 m. Purple stars represents well depths in the range of 5,000 m or greater.

5.4 Well Data Statistical Characteristics

Histograms and boxplots provide useful visual representations of the distribution of the data. A histogram is characterized by its symmetry or asymmetry. Symmetric histograms show roughly equal mirror images of the left and right side of a distribution around the mean. Asymmetric histograms are characterized by the degree of skewness of a distribution around the mean. Positive skewness shows a distribution stretched out towards more positive values. Negative skewness shows a distribution stretched out towards more negative values. The skewness value of "approximately symmetric" distributions is between -0.5 and +0.5. For "moderately skewed" distributions, skewness varies between -1 and -0.5 or between +0.5 and +1. For "highly skewed" distributions, skewness is less than -1 or greater than +1 (Bulmer, 1979).

The boxplot shows the location of the smallest or minimum value, the lower fourth or lower quartile ($q_{0.25}$), the median ($q_{0.5}$), the upper fourth or upper quartile ($q_{0.75}$), and the largest or maximum value, as shown in Figure 5.3. Because the boxplot uses the median and fourths they are considered robust to the presence of outlying values. Boxplots defines "outliers" as values farther than $1.5(q_{0.75} - q_{0.25})$ from the closest fourth and "extreme outliers" as values farther than $3(q_{0.75} - q_{0.25})$ from the closest fourth, where 1.5 is a multiplicative constant for a standard graphical boxplot (Devore, 2008).

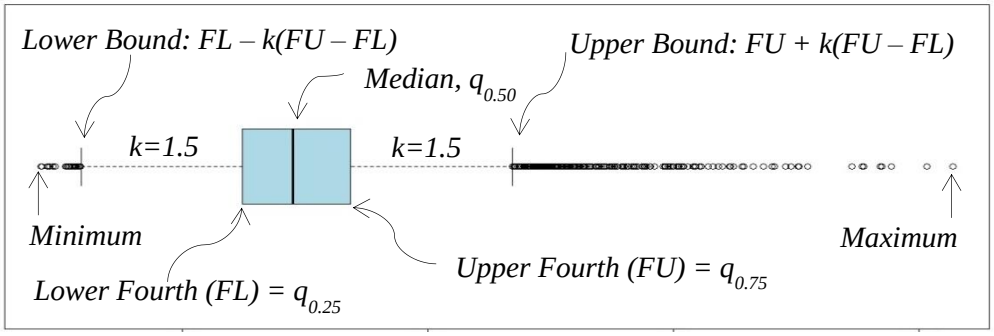


Figure 5.3: Boxplot describing the location of the median, lower and upper fourths, and lower and upper bounds.

Histograms and boxplots of geothermal gradient, surface heat flow, and average thermal rock conductivity are provided in Figures 5.4 – 5.6. In addition, statistical characteristics for these variables are summarized in Appendix C.

Figure 5.4 suggests that the mean and median of the geothermal gradient distribution is 23.0 ˚C/km and 23.3 ˚C/km, respectively. The shape of the histogram appears "approximately symmetrical". The skewness coefficient is 0.07. The boxplot suggests that the lower fourth and upper fourth are 20.0 ˚C/km and 25.6 ˚C/km, respectively. The lower and upper bounds are at 11.5 ˚C/km and 34.5 ˚C/km, respectively. As defined by the boxplot, "outliers" are values less than the lower bounds and greater than the upper bounds. "Extreme outliers" are values less than 3.0 ˚C/km or greater than 42.5 ˚C/km.

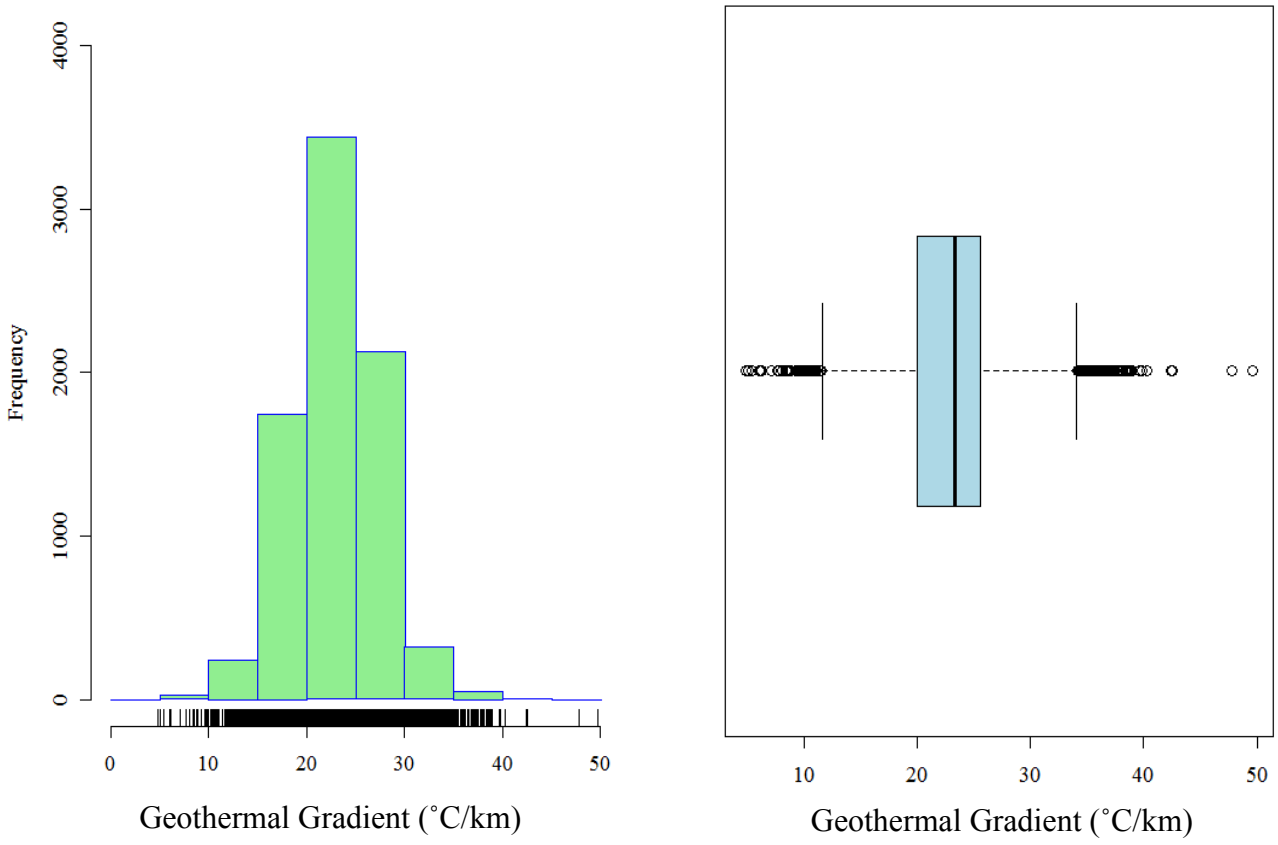


Figure 5.4: Histogram (left) and Boxplot (right) of geothermal gradient (˚C/km) for New York State and Pennsylvania.

In Figure 5.5, the mean and median of the distribution for average thermal conductivity is 2.3 $Wm^{-1}K^{-1}$ and 2.2 $Wm^{-1}K^{-1}$, respectively. The skewness coefficient is 1.30, suggesting that the distribution is "highly skewed" to the right. The boxplot indicates that the lower fourth and upper fourth are 2.2 $Wm^{-1}K^{-1}$ and 2.4 $Wm^{-1}K^{-1}$, respectively. "Outliers", as defined by the boxplot, are values less than the lower bound of 1.9 $Wm^{-1}K^{-1}$ and greater than the upper bound of 2.7 $Wm^{-1}K^{-1}$. "Extreme outliers" are values less than 1.6 $Wm^{-1}K^{-1}$ and greater than 3.0 $Wm^{-1}K^{-1}$.

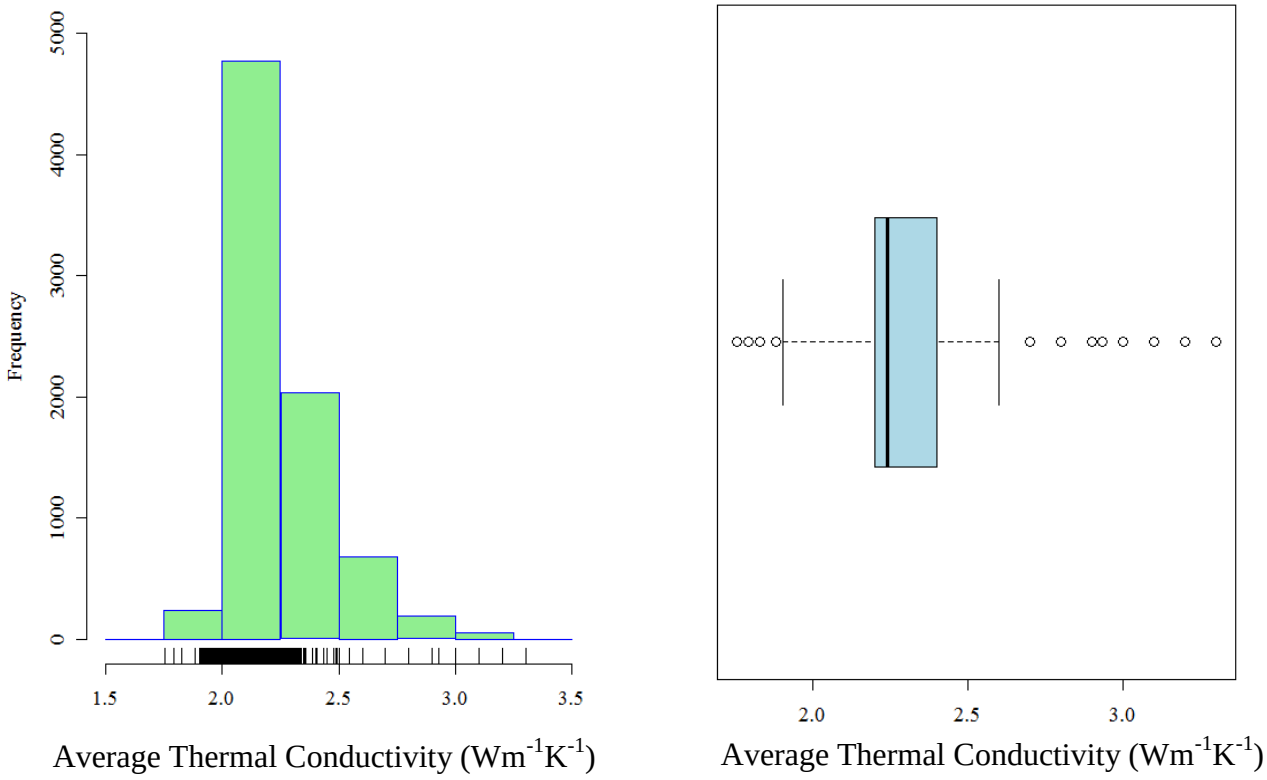


Figure 5.5: Histogram (left) and Boxplot (right) of average thermal conductivity ($Wm^{-1}K^{-1}$) for New York State and Pennsylvania.

In Figure 5.6, the mean and median of the distribution for surface heat flow is 52.7 mW/m^2 and 52.4 mW/m^2, respectively. The skewness coefficient is 0.80, suggesting that the distribution is "moderately skewed" to the right. The boxplot indicates that the lower fourth and upper fourth are 46.3 $mW/m^2$and 57.3 mW/m^2, respectively. "Outliers" have values less

than the lower bound of 29.7 mW/m^2 and greater than the upper bound of 73.9 mW/m^2. "Extreme outliers" are values less than 13.2 mW/m^2 and greater than 90.4 mW/m^2.

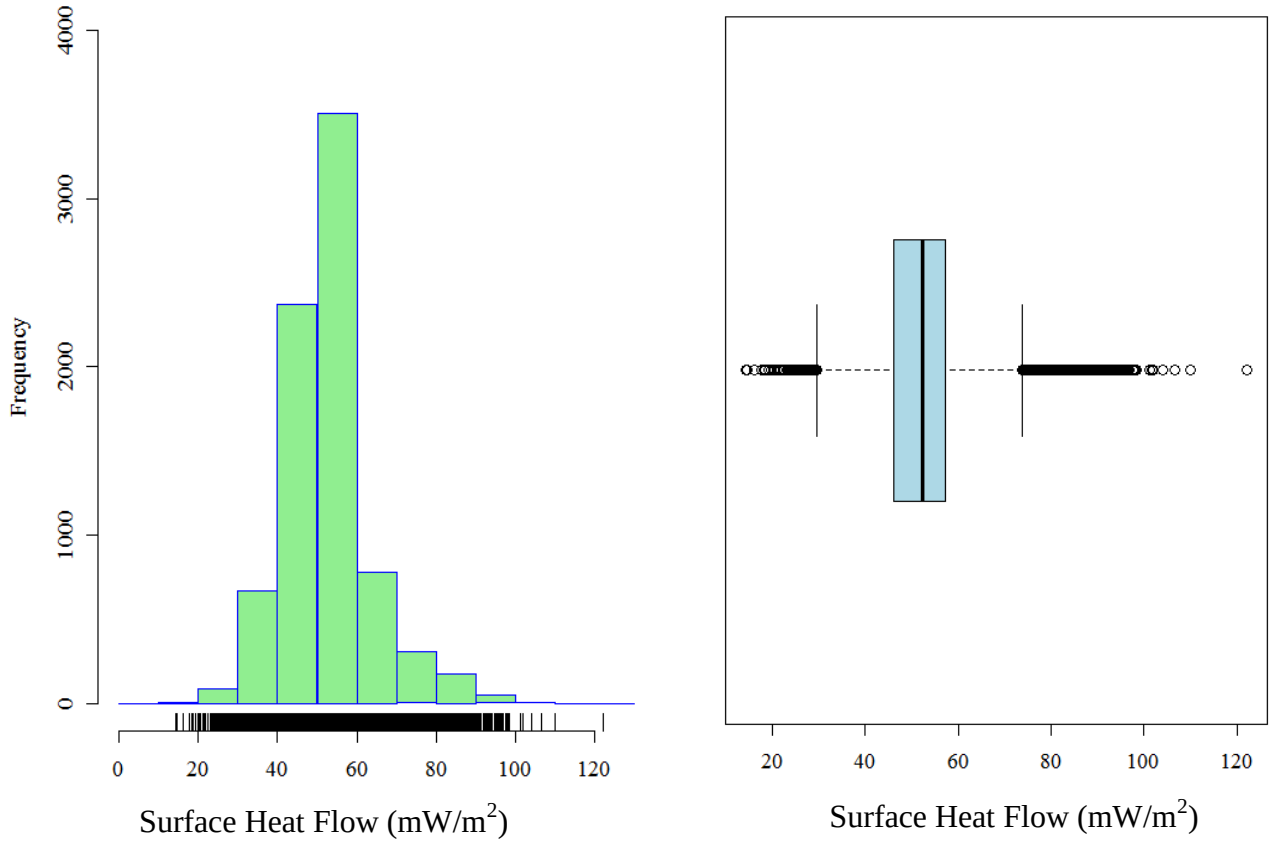


Figure 5.6: Histogram (left) and Boxplot (right) of surface heat flow (mW/m^2) for New York State and Pennsylvania.

Two types of outliers were analyzed in this study: global and local outliers. Global outliers are those that show extreme high or extreme low values relative to the entire database. Local outliers are those that are high or low with respect to surrounding points. To reduce the impact of outliers in the spatial interpolation and regression processes of geothermal resources, global and local outlier methods were applied to the dataset. This discussion focuses on geothermal gradient and surface heat flow because of the possible misrepresentation of equilibrated temperatures from well logs and generalizations behind the thermal conductivity models used for the geothermal gradient and surface heat flow calculations.

5.5 Global Outlier Techniques for Geothermal Gradient and Surface Heat Flow

For global outlier identification, three methods were explored: (1) boxplot rule, (2) asymmetric boxplot rule, and (3) median with average deviation rule.

The boxplot rule with bounds, as given in equation 5-1, is a powerful and robust technique proposed by Hoaglin et al. (1986) that can be used to identify potential outliers. This technique is resistant and unaffected by extreme outlier points because the fourth-spread is insensitive to the presence of a few extreme outliers. If a data value is observed to fall outside of the lower or upper bound, then it is classified as a potential outlier. The boxplot rule with bounds is a common plotting technique to measure the spread and dispersion in the data; however, it is not a rigorous technique for testing anomalous values.

$$\textit{Lower Bound: } FL - k(FU - FL) \qquad (5\text{-}1)$$

$$\textit{Upper Bound: } FU + k(FU\text{-}FL)$$

where FL is the lower fourth and FU is the upper fourth of the data, and $k = 1.5$ is the multiplicative constant for a standard graphical boxplot.

The asymmetric boxplot rule, as given in equation 5-2, is a method that was compared against the boxplot rule, as it is also robust but more applicable to asymmetrical distributions.

$$\textit{Lower Bound: } FL - 2k(Median - FL) \qquad (5\text{-}2)$$

$$\textit{Upper Bound: } FU + 2k(FU - Median)$$

where FL is the lower fourth and FU is the upper fourth of the data, and $k = 1.5$ is the multiplicative constant for a standard graphical boxplot.

The median with average deviation (AD) rule was also considered as a robust estimator of dispersion. This technique takes a more symmetric view of the distribution of the data than the other two methods. The median with average deviation rule is shown in equations 5-3 and 5-4.

Lower Bound: Median – 1.93 k(AD) (5-3)

Upper Bound: Median + 1.93 k(AD)

$$AD = |X_n - median| \quad (5\text{-}4)$$

where *AD* is the average difference between the data point value (X_n) and the median, and $k = 1.5$ is the multiplicative constant for a standard graphical boxplot.

The boxplot rule, asymmetrical boxplot rule, and median with average deviation rule was applied to geothermal gradient and surface heat flow for the identification of global outliers. The lower and upper bounds for each global outlier method for geothermal gradient and surface heat flow is summarized in table 5.1 and table 5.2, respectively.

	Geothermal Gradient (˚C/km)	
Method	**Lower Bound**	**Upper Bound**
Boxplot	11.6	34.0
Asymmetric Boxplot	10.1	32.5
Median with Average Deviation	13.4	33.2

Table 5.1: Lower and upper bounds of each global outlier method for geothermal gradient (˚C/km).

	Surface Heat Flow (mW/m²)	
Method	**Lower Bound**	**Upper Bound**
Boxplot	29.8	73.8
Asymmetric Boxplot	28.0	72.0
Median with Average Deviation	30.4	74.4

Table 5.2: Lower and upper bounds of each global outlier method for surface heat flow (mW/m²).

The count of lower bound and upper bound outliers found by the boxplot rule, asymmetric boxplot rule, and median with average deviation for geothermal gradient and surface heat flow is shown in Figures 5.7 and 5.8, respectively. The median with average deviation rule captured a higher number of lower bound outliers identified as gradients less than 13.4 ˚C/km and heat flows less than 30.4 mW/m². The asymmetrical boxplot captured a higher number of upper bound outliers identified as gradients higher than 32.5 ˚C/km and heat flows greater than 72.0 mW/m². The asymmetric boxplot rule also captured fewer lower bound outliers identified as gradients less than 10.1 ˚C/km and heat flows less than 28.0 mW/m². Our interest is in testing a higher number of upper bound values. High gradient/high heat flow regions might result favorable for the application of Enhanced Geothermal Systems (EGS) for direct thermal use and/or combined heat and power applications (CHP).

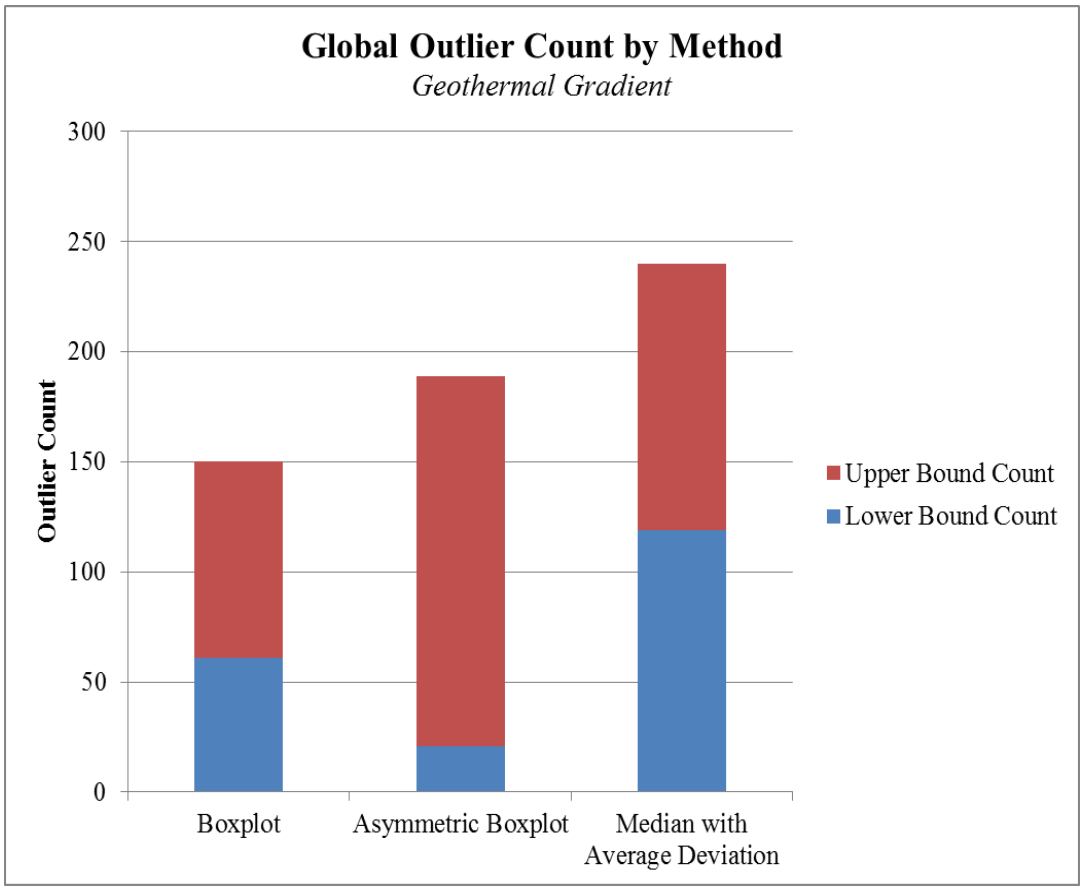


Figure 5.7: Global outlier count of boxplot, asymmetric boxplot, and median with average deviation divided into lower bound and upper bound for geothermal gradient.

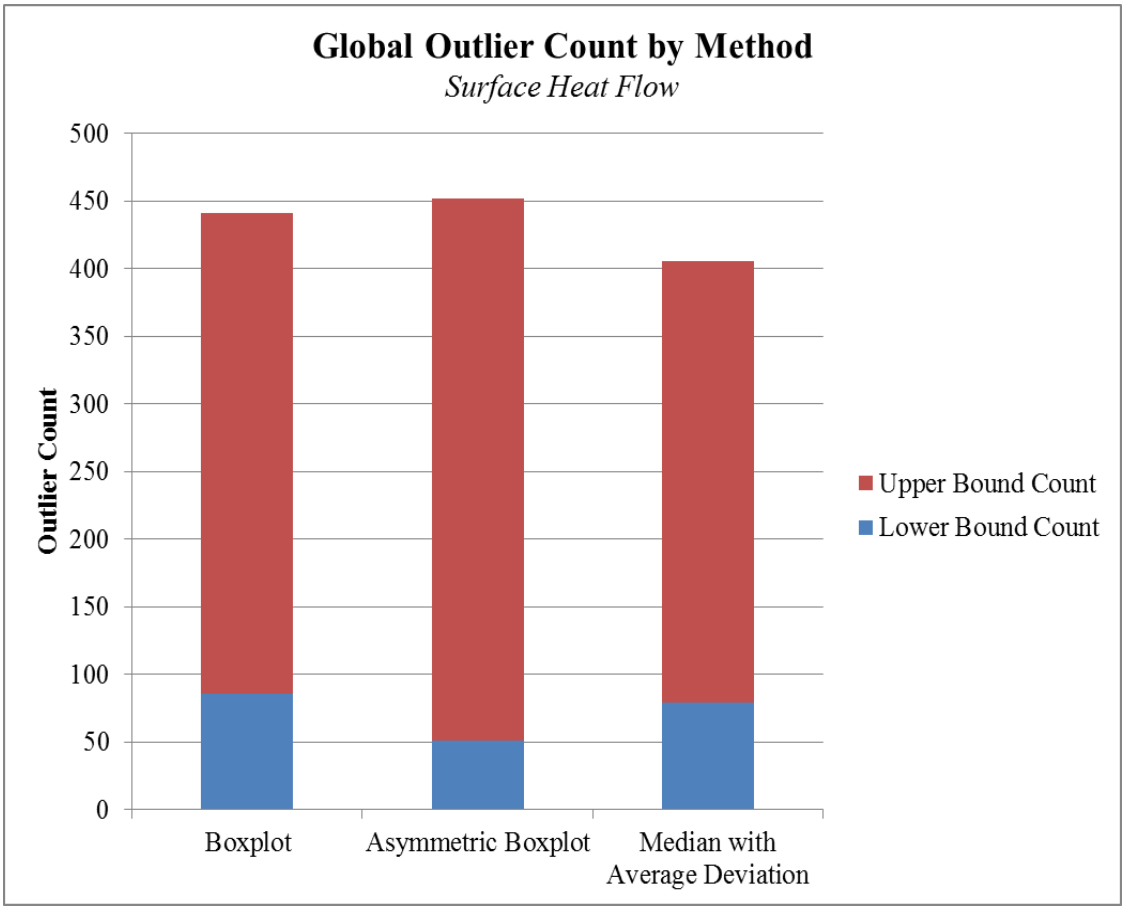


Figure 5.8: Global outlier count of boxplot, asymmetric boxplot, and median with average deviation divided into lower bound and upper bound for surface heat flow.

A total count of global outliers identified through each method for geothermal gradient and surface heat flow are summarized in table 5.3.

	Global Outlier Count	
Method	**Geothermal Gradient**	**Surface Heat Flow**
Boxplot	150	441
Asymmetric Boxplot	189	452
Median with Average Deviation	240	406

Table 5.3: Global outlier count of geothermal gradient and surface heat flow for New York State and Pennsylvania.

For geothermal gradient, the method with the highest capture was the median with average deviation rule. For surface heat flow, the asymmetric boxplot capture the highest number of global outliers.

The asymmetric boxplot is expected to perform better than the other global outlier techniques because it is a robust statistical method that accounts for the asymmetry in the distributions. Gradients show a slight asymmetry in the data, while thermal conductivity and heat flow show a higher degree of asymmetry in the data. In addition, the asymmetric boxplot rule captures a higher number of upper bound values that are of interest in our geothermal resource assessment study. Accurate identification of high gradient/high heat flow regions is essential for EGS applications.

The application of global outlier methods, including the boxplot, asymmetric boxplot, and median with average deviation rule, allowed for the identification of points that appear unusual to the distribution of the overall dataset. The asymmetric boxplot rule was preferred to search for global outliers in the gradient and heat flow dataset. Because of interest in further verifying the identified values as outliers, the global outliers identified by the asymmetric boxplot rule are tested within their local surroundings, as described in the next section.

5.6 Local Outlier Techniques for Geothermal Gradient and Surface Heat Flow

A more refined analysis was needed in the areal domain of latitude and longitude to verify the rejection of the outlying points from the asymmetric boxplot rule in the global outlier analysis. Global and local outlier identification was implemented first for geothermal gradients. The intersection between the global and local outliers for geothermal gradients determined the number of points removed from the dataset as confirmed outliers. Therefore, a local outlier has to be a global outlier. Then, the process was repeated for surface heat flow where the global and

local outlier tests were implemented using the updated dataset that did not include the global and local gradient outliers.

The gradient and heat flow data, including the previously identified global outliers for each parameter, were used to spatially block the region. An optimal block size was chosen based on a series of experimental block sizes. The asymmetrical boxplot rule was then implemented within each block to test each point in the dataset and determine if it was a local outlier.

Experimental block sizes ranged from 4 km to 512 km. The number of global gradient outliers remained constant regardless of the selection of the block size. For surface heat flow, the number of global outliers varied with block size and was determined by the number of global and local gradient outliers that were removed from the dataset.

For both gradient and heat flow, the number of local outliers increased from a block size of 4 km up to the block size of 32 km. The number of local outliers decreased beyond a block size of 32 km. Block sizes less than 32 km are too small to document regional variations. Block sizes greater than 32 km are too large that significant loss in the variability of the data is likely. The total number of global and local outliers for both gradient and heat flow gradually increased as the block size increased because the local tests converges to a global test with large block sizes.

A minimum-points criterion in the blocks was established to ensure reasonable stability in the quartiles calculated with the asymmetric boxplot rule. For this analysis, an appropriate minimum number of points was 25. Blocks with less than the minimum-points criterion of 25 points were not considered for the local outlier test and were left in the dataset. Only points identified as both global and local outliers for geothermal gradient and surface heat flow were removed from the spatial interpolation and regression analyses in Chapters 6 and 7, respectively.

For this analysis, the optimum block size for gradient and heat flow local outliers was 32 km because it captures the highest number of local outliers. As a result, a total number of 80 points were labeled as both global and local outliers in the geothermal gradient study and an additional 73 points in the surface heat flow study. After the 153 geothermal gradient and surface heat flow outliers were removed from the 7,969 points dataset, a total of 7,816 data points remained for the spatial interpolation and regression analyses.

With the 32 km block size and the minimum-points criterion set to 25 points per block, 7.4% of all points in the dataset fall in areas of sparse data density, meaning less than 25 points per block. A total of 1.7% of points that were classified as both global and local outliers for gradient or heat flow were located in areas of sparse data density.

The spatial distribution of the gradient and heat flow outliers is given in Figures 5.9 and 5.10, respectively. Most global and local outliers appear in close proximity. These outlying values could correspond to potential sources of error during the recording or transcription of the data, from inadequate BHT corrections in the temperature-depth dataset, defective or inaccurate equipment, different drilling practices between companies, geological heterogeneities, and/or generalizations involved in the thermal conductivity model used to calculate heat flow.

In Pennsylvania, many upper global and local geothermal gradient outliers, with values higher than 26 ˚C/km, are evident along the eastern border of the Appalachian Basin. A few upper global and local outliers appear in western Pennsylvania. Although lower gradient global outliers, with values less than 15 ˚C/km, were identified in north central and southwestern Pennsylvania not many were identified by the local outlier test. In New York State, upper global and local gradient outliers appear in central and southwestern counties.

Global outliers for heat flow, with values greater than 70 mW/m², were identified mostly along the eastern border of the Appalachian Basin in Pennsylvania. Many of those identified as global outliers did not classify as both global and local outliers. In Pennsylvania, most of the global and local outliers identified for heat flow were located in southwestern counties. The heat flow values in southwestern Pennsylvania ranged from 18 – 30 mW/m² and greater than 70 mW/m². In New York, all of the global and local heat flow outliers identified ranged from 18 – 30 mW/m². These are located in central and southwestern New York. A regional and county map of New York State and Pennsylvania is provided in Appendix B.

The global and local outliers identified for gradient and heat flow through the methods described above were not furthered analyzed to determine a physical explanation for these anomalies. The points identified were removed from the dataset used to spatially interpolate and regress geothermal variables. Further analysis should be done, especially in areas of sparse data, to validate the collected data.

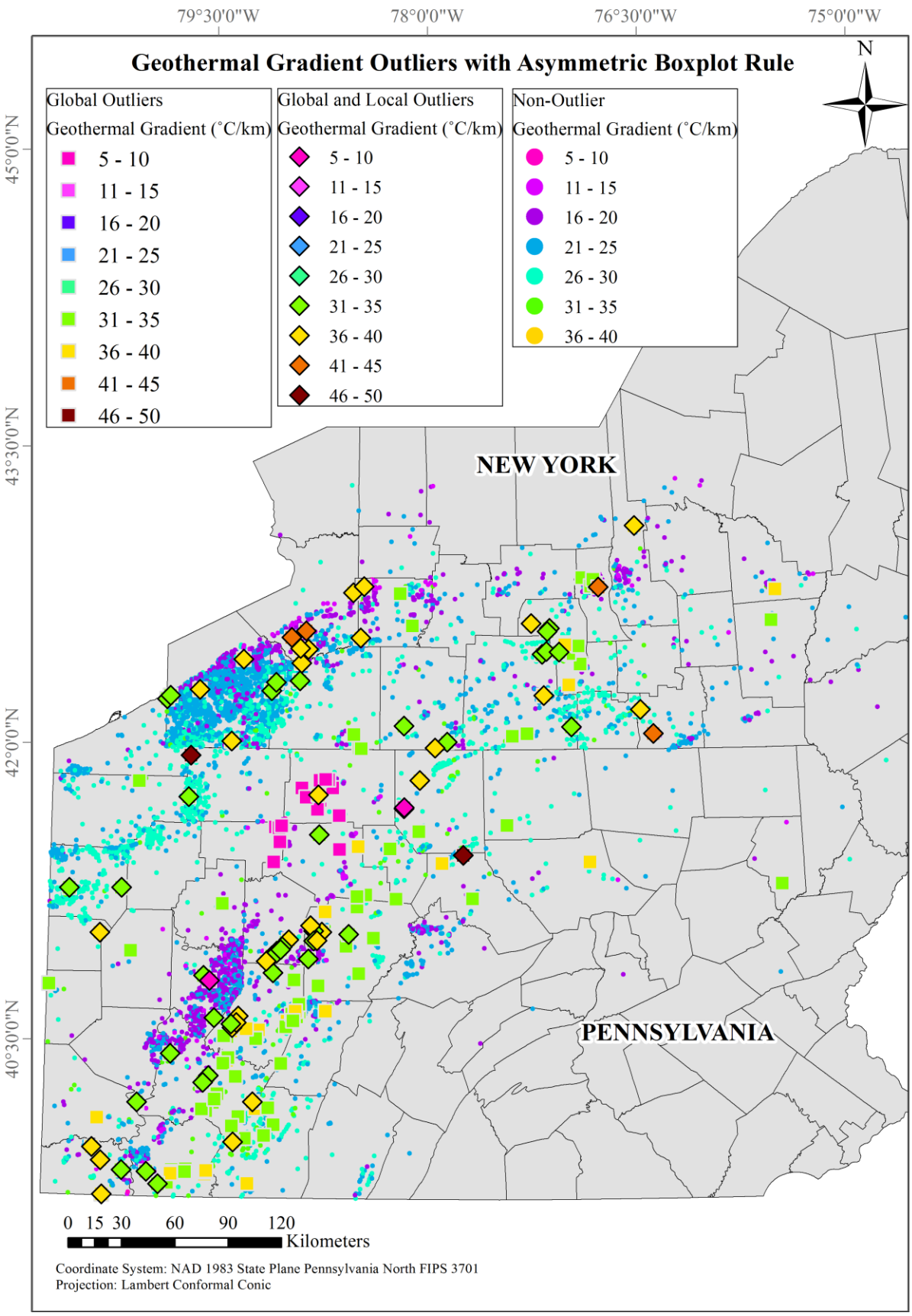


Figure 5.9: Spatial distribution of global and local outliers with the asymmetric boxplot rule for geothermal gradient.

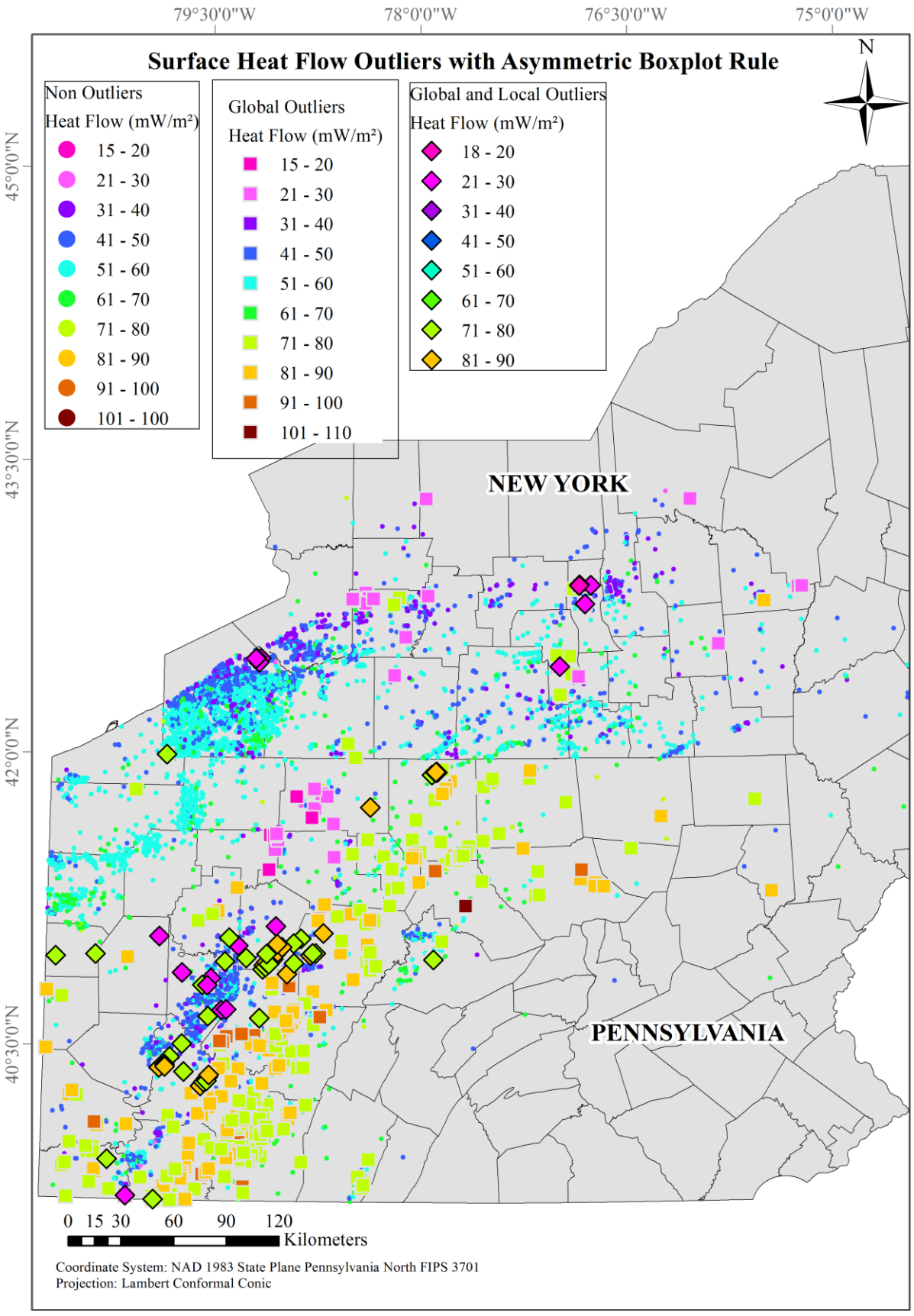


Figure 5.10: Spatial distribution of global and local outliers with the asymmetric boxplot rule for surface heat flow.

5.7 Conclusions

This chapter described data sources and statistical characteristics of the well data collected in the Appalachian Basin of New York and Pennsylvania. In addition, this chapter provided recommendations on appropriate statistical methods for the detection of anomalies or outlying values within large datasets.

This analysis showed how exploratory data analysis (EDA) using graphical techniques, such as the histogram and boxplot, can be used to quantitatively characterize well data and for the detection of anomalies or outlying values. Methods for the detection and treatment of outlying values were divided into two analyses: global and local. As part of the global outliers, the methods explored included the boxplot rule, asymmetric boxplot rule, and median with average deviation rule. For local outliers, various grid sizes were investigated to test the global outliers within their surrounding values. The ideal grid size was found to be 32 km. The 32 km grid size captured the highest number of local outliers.

The asymmetrical boxplot was chosen to remove outliers in both the global and local study because of the asymmetrical nature in the distribution of the data, as well as the effectiveness in the capture of upper extreme values. From the collected data, a total number of 80 points were labeled as both global and local outliers in the geothermal gradient study and an additional 73 points in the surface heat flow study. After the 153 geothermal gradient and surface heat flow outliers were removed from the 7,969 dataset, a total of 7,816 data points remained for the spatial interpolation and regression analyses in Chapters 6 and 7, respectively. All of the data points labeled as outliers were retained in the overall database found in Appendix A. Spatial interpolation and regression analysis will be considered for the estimation

of geothermal gradient, surface heat flow, estimated temperatures at various depths, and estimated depths to various isotherms.

This chapter took a statistical approach to outlier classification for the geothermal gradient and surface heat flow dataset in New York and Pennsylvania. Given the known uncertainties behind the temperature-depth dataset, the generalizations involved in the thermal conductivity model, and varying data densities across the region, further studies are needed to determine the physical causes of outlier classification in certain observations.

REFERENCES

Barnett, V. and Lewis, T. (1994). Outliers in Statistical Data. 3rd Edition. Wiley Series in Probability and Mathematical Statistics.

Blackwell, D. D., Negraru, P. T., Richards, M. C. (2007). Assessment of the Enhanced Geothermal System Resource Base of the United States. Natural Resources Research, vol. 15,pp. 283-308.

Bulmer, M.G. (1979). Principles of Statistics. Dover Books on Mathematics Series; Dover books on advanced mathematics. Courier Dover Publications.

Devore, J.L. (2008). Probability and Statistics For Engineering and the Sciences. Seventh Edition. Thomson Brroks/Cole, The Thomson Corporation. Belmont, California.

ESRI. (2010). ArcInfo: ArcMap. Environmental Systems Research Institute. Redlands, California.

Hoaglin, D.C., Iglewicz, B., Tukey, J.W. (1986). Performance of Some Resistant Rules for Outlier Labeling". Journal of American Statistical Association. vol. 81, pp. 991-999.

New York State Department of Environmental Conservation (NYSDEC). (2011). Oil and Gas Searchable Database. Retrieved February 2011 from <http://www.dec.ny.gov/cfmx/extapps/GasOil/search/wells/index.cfm>.

Pennsylvania, Department of Conservation and Natural Resources (PA, DCNR). (2012). Subsurface Rock Correlation Diagram: Oil and Gas Producing Regions of Pennsylvania. Bureau of Topographic and Geologic Survey. http://www.dcnr.state.pa.us/topogeo/drc/drcdiagram.aspx

Ruppel, S. C., Jones, R. H., Breton, C. L., Kane, J. A. (2005). Preparation of Maps Depicting Geothermal Gradient and Precambrian Structure in the Permian Basin. Bureau of Economic Geology. The University of Texas at Austin, Jackson School of Geosciences.

Stutz, G. R., Williams, M., Frone, Z., Reber, T. J., Blackwell, D., Jordan, T., Tester, J. W. (2012). A Well by Well Method for Estimating Surface Heat Flow to Analyze the Geothermal Energy Resource Potential of the United States. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Stutz, G. R. (2012). Development, Analysis, and Application of a Well by Well Method for Estimating Surface Heat Flow for Regional Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

CHAPTER 6

INTERPOLATION METHODS

6.1 Introduction

An objective of this chapter is to provide a detailed description of interpolation methods commonly used in geothermal resource assessment, including minimum curvature, natural neighbor, and kriging geostatistical interpolator. In addition, this chapter uses the kriging interpolation method to provide estimates of geothermal resources for the Appalachian Basin in New York and Pennsylvania, and estimates of the uncertainty in the assessment.

Interpolation methods are used in geothermal resource assessment to describe the spatial behavior of a variable given a set of sparsely distributed measurements (Chilès and Delfiner, 1999; 2012; Rusu and Rusu, 2006). Many interpolation methods are widely used in the sciences and engineering. These include natural neighbor, minimum curvature, and the kriging geostatistical interpolator, among others. Regression methods can be also used to estimate geothermal resources, as described in *Chapter 7 – Local Regression Methods.*

Spatial interpolation methods can be divided into global versus local interpolators, exact versus approximate, and stochastic versus deterministic interpolators (EPA, 2004). Global interpolating methods use the entire dataset and create one function to estimate the variables of interest over the entire region (Laslett et al., 1987; EPA, 2004). In contrast, local interpolating methods use ‘neighboring’ points to construct local estimators (Laslett et al., 1987; EPA, 2004).

Exact interpolation methods are those that ensure the interpolated surfaces reproduces the values of the input data. Approximate interpolators do not force the approximation through the original observations (EPA, 2004).

Stochastic interpolators use probabilistic models to include the idea of randomness of the process and uncertainty in the estimated values (EPA, 2004). Based on Lanza et al. (2001), stochastic interpolators use available data measurements to compute unbiased and minimum variance estimates where data measurements are sparse. Stochastic interpolators model spatial uncertainty using realizations of the joint distribution of the observations (Li and Heap, 2008). Deterministic interpolators do not apply probabilistic methods, nor give any indication of the uncertainty in the estimated values (EPA, 2004).

Commonly used interpolation techniques in geothermal resources assessment are discussed in upcoming sections, including minimum curvature, natural neighbor, and kriging geostatistical interpolator. The minimum curvature interpolation method was used by Blackwell and Richards (2004) for the 2004 Geothermal Map of North America. The natural neighbor interpolation method was used for the 2012 geothermal resource assessment of New York and Pennsylvania (Shope et al., 2012; Stutz et al., 2012; Shope, 2012; Stutz, 2012). The kriging geostatistical interpolator was chosen for this study because it is known to produce reliable maps with estimates of their precision. Natural neighbor and minimum curvature interpolation methods are both considered as local, exact, and deterministic. The kriging geostatistical interpolator can be global or local, exact or approximate, and is stochastic in nature (EPA, 2004).

6.2 Natural Neighbor Interpolation Method

As described by its name, natural neighbor estimation depends entirely on neighboring points. It assigns weights to those points based on the proximity of surrounding points (Sibson, 1980; 1981). A popular natural neighbor estimator was developed by Sibson (1980; 1981), and uses inverse distance weighted averages of local data points based on the Voronoi diagram and the Delaunay triangulation (Ledoux and Gold, 2005).

The Voronoi diagram is a way of dividing a region into various cells based on the location of data points (Sambridge et al., 1995; Ledoux and Gold, 2005). The Delaunay triangulation is defined as the triangulation of the cells where the circumference of each triangle is empty of any points (Chew, 2007). The Voronoi diagram and the Delaunay triangulation are geometric duals, as shown in Figure 6.1. By letting a region, *S*, equal a set of points, *n*, the Voroni cell of a point $p \in S$, described by V_p, is the set of points, *x*, closer to *p* than any other point in the region (Ledoux and Gold, 2005). Voronoi diagrams aid in the selection of neighbors and in the determination of weights (Ledoux and Gold, 2005; Shuenemeyer and Drew, 2011).

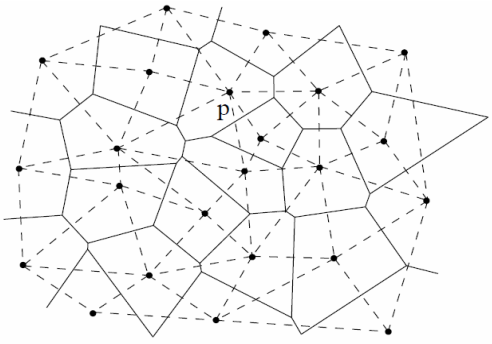


Figure 6.1: 2D representation of the Voronoi diagram (solid black lines) and the Delaunay triangulation (dashed black lines) from Ledoux and Gold (2005).

Based on Ledoux and Gold (2005), the weight of each neighbor is calculated based on the volume of its Voronoi cell, as shown in equation 6 - 1.

$$w_i(x) = \frac{Vol(V_{pi} \cap V_x^+)}{Vol(V_x^+)} \quad (6\text{-}1)$$

where $w_i(x)$ is the weight at location point, x, V_{pi} is the the Voronoi cell of a point, p, in the Voronoi diagram, $Vol(V_{pi})$ is the volume of V_{pi}, V_x^+ is the volume "stolen" from a Voronoi cell of its natural neighbors, and $Vol(V_x^+)$ is the sum of the volumes "stolen" from each of the k natural neighbors (Sibson, 1980; 1981; Ledoux and Gold, 2005).

The interpolated natural neighbor function is:

$$f(x) = \sum_{i=1}^{k} w_i(x)\, a_i \quad (6\text{-}2)$$

where $f(x)$ is the interpolated natural neighbor function at location point, x, $w_i(x)$ is the weight at location point, x, and a_i is the known scalar attribute value of each data point.

Natural neighbor estimation is known for its ability to handle spatial datasets of varying densities (Sambridge et al., 1995). A disadvantage of the natural neighbor estimation is that it can lead to strange results around the edges of the area because the weight of each neighbor is inversely proportional to the proximity of surrounding points (Sibson, 1980; 1981; Ledoux and Gold, 2005). Another disadvantage is that the natural neighbor estimation does not produce a variance for the predictions and no measure of the accuracy of these predictions is provided.

6.3 Minimum Curvature Interpolation Method

Another interpolation method employed for geothermal resource assessment is the minimum surface curvature (MSC) interpolation method (Blackwell and Richards, 2004). MSC interpolation was developed by Briggs (1974), and is considered a spline function belonging to the family of radial basis functions (EPA, 2004). MSC aims to minimize the total curvature of the interpolated surfaces when it passes through input data (Briggs, 1974; Li et al., 2002; EPA, 2004). Based on Dressler (2009), MSC is equivalent to a "thin, linearly elastic plate" that passes through the data with minimum curvature.

Briggs (1974) suggests that the spline function can be optimally solved by finite difference equations. To show this, he constructs an interpolation surface *u(x,y,)* that minimizes the total squared curvature:

$$C(u) = \iint \left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} \right) dxdy \qquad (6\text{-}3)$$

where *u(x,y)* is the interpolation surface, and *x* and *y* are the space variables.

He then discretizes the total squared curvature, where $C_{i,j}$ is the curvature at (x_i, y_i) and is a function of $u_{i,j}$ and a neighbor grid value:

$$C = \sum_{i=1}^{I} \sum_{j=1}^{J} (C_{i,j})^2 \qquad (6\text{-}4)$$

To minimize *C*, Briggs (1974) sets the partial derivatives equal to zero:

$$\frac{\partial C}{\partial u_{i,j}},\ i = 1, \cdots, I;\ j = 1, \cdots, J \qquad (6\text{-}5)$$

He then develops an approximation to the curve in two-dimensions at (x_i, y_i), where h is the grid spacing:

$$C_{i,j} = \frac{(u_{i+1,j} + u_{i-1,j} + u_{i,j+1} + u_{i,j-1} - 4u_{i,j}}{h^2} \quad (6\text{-}6)$$

Finally, equations 6-4 through 6-6, result in the system of linear equations below (Briggs, 1974):

$$u_{i+2,j} + u_{i,j+2} + u_{i-2,j} + u_{i,j-2} + 2(u_{i+1,j+1} + u_{i-1,j+1} + u_{i+1,j-1} + u_{i-1,j-1}) -$$

$$8(u_{i+1,j} + u_{i-1,j} + u_{i,j-1} + u_{i,j+1}) + 20u_{i,j} = 0 \quad (6\text{-}7)$$

where $u_{i,j}$ is the grid interpolated value at grid location point *(i,j)*.

Advantages of the MSC interpolation method include its simplicity and wide applicability, as well as its ability to interpolate large amounts of data (Li et al., 2002; Dressler, 2009). Nonetheless, MSC interpolation has been criticized by some researchers because of its slow convergence and poor accuracy, resulting from the unsuitability of applying finite difference methods to randomly spaced data points in a "uniformly partitioned mesh" (Li et al., 2002). Li et al. (2002) suggest the use of a triangular mesh to solve this problem. The MSC interpolation method does not produce a variance of the predictions; therefore, little is known about the precision of these predictions.

6.4 Kriging Geostatistical Interpolator

Geostatistics belongs to the category of stochastic interpolation and represents the application of random functions and probabilistic methods to estimate natural phenomena (Matheron, 1962; Journel and Huijbregts, 1978; Chilès and Delfiner, 1999; 2012). As described by Hohn (1988; 1999), geostatistics refers to the statistics of spatially correlated data. Geostatistical methods provide a realistic representation of the distribution of a random variable across some spatial region. That distribution is called a random field. The use of geostatistical methods allows for the quantification of uncertainty in the estimated means and predictions for a point or a region.

Kriging is a geostatistical or spatial estimation method. It employs a weighted regression model that uses observed values and covariance functions describing the behavior of the random field (Chilès and Delfiner, 1999; 2012; Rossiter, 2012). The kriging geostatistical interpolator was developed for the mining industry by the statistician H.S. Sichel and the mining engineer D.G. Krige (1951). Hengl (2007) describes this technique as a sophisticated extension of the inverse distance interpolator. Kriging is considerably better than inverse distance because the estimated values reflect the modeled spatial dependence among observed values (Rossiter, 2011; 2012).

Kriging uses a variogram that reflects the spatial relationship of the data (Chilès and Delfiner, 1999; 2012; Rossiter, 2012). Kriging algorithms can compute the variance-of-prediction at each of the estimated values. The variance-of-prediction is defined as the expected value of the squared difference between the kriging estimate and an observation at a point. The variance-of-the-predicted-mean is the expected value of the squared difference between the

kriging estimate and the mean value of the spatial field at a point, given available sample information about the local value of the region. The two are different in our case due to measurement error. Observations at a point differ from the regional mean at that point due to local variation and measurement error. Confidence and prediction bands with the desired statistical significance provide a description of the uncertainty in the kriging estimates of the expected mean of the process at a point, and also of the likely value of an observation.

Consider three classic types of kriging models: simple kriging, ordinary kriging, and universal kriging. Simple kriging (SK) assumes a constant and known mean for the entire area, and is based on a stationary stochastic field for the true values of the spatial variable (Chilès & Delfiner, 1999; 2012). Ordinary kriging (OK) assumes a constant, but unknown mean for the region, and is again based on a stationary stochastic field (Chilès & Delfiner, 1999; 2012). Universal kriging (UK) assumes a varying and unknown mean for the area that depends on covariates, and models both the regional signal and regional spatial dependence by incorporating global trend estimation (Chilès & Delfiner, 1999; 2012; Rossiter, 2011; 2012).

The ordinary kriging (OK) model was chosen for this study because the actual regional mean is not known, and no regional trend was included, so universal kriging was not required. The OK model is the following:

$$R(x_0) = \mu + \varepsilon(x_0) + \delta(x_0) \tag{6-8}$$

where $R(x_0)$ is the value of R at location x_0 and μ is the regional mean. The spatial random field representing the variation around the mean is $\varepsilon(x_0)$. Finally, $\delta(x_0)$ represents measurement or positioning error.

OK predictions are linear functions of the data and thus can be written as:

$$\hat{R}_{OK}(x_0) = \sum_{i=1}^{n} w_i(x_0) \cdot r(x_i) = \boldsymbol{w(x_0) \cdot r} \quad (6\text{-}9)$$

where the OK estimate $\hat{R}_{OK}$ at location x_0 is a weighted average using weights $w_i(x_0)$ of the $r(x_i)$ observed value at all n sample points. The kriging weights denoted by $w_i(x_0)$ for the observation available at location x_0 is represented by the vector $\boldsymbol{w(x_0)}$ and will sum to one, which is necessary for the estimation to be unbiased. The vector of observations is $\boldsymbol{r}$.

Kriging is known as the "best linear unbiased estimator" or B.L.U.E. (Chilès and Delfiner, 1999; 2012). To make the kriging estimator unbiased, some authors derive the kriging estimation by minimizing the mean squared error or variance of the linear estimate with conditions that the linear estimator be unbiased (Chilès and Delfiner, 1999; 2012). Thus, at any point x_0 it must be the case that the kriging estimate $\hat{R}(x_0)$ is unbiased with respect to the random function R at location x_0. Unbiasedness can be described as:

$$E\{[\hat{R}(x_0) - R(x_0)]\} = 0 \quad (6\text{-}10)$$

Kriging algorithms can compute the variance-of-the-predicted-mean, σ^2_{EM}, and the variance-of-prediction, σ^2_{pred}, for the estimator $\hat{R}(x_0)$. For this study, the variance-of-the-predicted-mean, σ^2_{EM}, is the error of interest because our interest is in the mean value at a point. The two variances are defined as:

$$\sigma^2_{EM} = E\{[\hat{R}(x_0) - (\mu + \varepsilon(x_0))]^2\} \quad (6\text{-}11)$$

where σ^2_{EM} is the variance-of-the-predicted-mean, $\widehat{R}(x_0)$ is the estimated value, μ is the regional mean, and $\varepsilon(x_0)$ is the spatial random field representing the variation around the mean.

Alternatively,

$$\sigma^2_{pred} = E\{[\hat{R}(x_0) - R(x_0)]^2\} \quad (6\text{-}12)$$

$$= E\{[[\hat{R}(x_0) - (\mu + \varepsilon(x_0))] - \delta(x_0)]^2\}$$

$$= E\{[[\hat{R}(x_0) - (\mu + \varepsilon(x_0))]^2 - 2\delta(x_0)[\hat{R}(x_0) - (\mu + \varepsilon(x_0))] + \delta^2(x_0)]\}$$

where σ^2_{pred} is the variance-of-prediction, $\widehat{R}(x_0)$ is the estimated value, μ is the regional mean, $\varepsilon(x_0)$ is the spatial random field representing the variation around the mean, and $\delta(x_0)$ represents the measurement or positioning error.

We assume that $E\{\delta(x_0)\} = 0$ and $Var\{\delta(x_0)\} = \sigma^2_n$

where σ^2_n is the "nugget effect", which is attributed to measurement or positioning error or noisy datasets. The "nugget effect" appears as a discontinuity at zero distance in the semivariogram (Chilès & Delfiner, 1999; 2012; Hengl, 2007; Rossiter, 2011; 2012).

The variance-of-prediction, $\sigma^2_{pred,}$ becomes:

$$\sigma^2_{pred} = E\{[\hat{R}(x_0) - (\mu + \varepsilon(x_0))]^2\} + \sigma^2_n = \sigma^2_{EM} + \sigma^2_n \quad (6\text{-}13)$$

where $E\{[\hat{R}(x_0) - (\mu + \varepsilon(x_0))]^2\}$ is the variance-of-the-predicted-mean also described by σ^2_{EM}, and σ^2_n is the "nugget effect", which represents the measurement or positioning error.

6.5 Database for Kriging Interpolation

Following the global and local outlier analysis in Chapter 5, 153 data points were removed from the 7,969 dataset. A total of 7,816 data points remained for the spatial interpolation analysis of geothermal gradient, surface heat flow, estimated temperatures at various depths, and estimated depths to various isotherms.

Besides the removal of the global and local outliers from the dataset, a minimum-points criterion was established for data sparse areas. In this analysis, the minimum-points criterion was selected as 5. From our dataset, most counties with less than 5 data points were located along the edges of the eastern border of the Appalachian Basin in New York and Pennsylvania. Data sparse areas might result in unreliable kriging estimates and high standard errors of kriging estimates because of fewer points contributing to the kriging interpolation. After applying this minimum-points criterion, a total of 37 data points were removed from the 7,816 dataset. The dataset used for the kriging interpolation included 7,779 data points.

The last step in assembling the dataset for kriging interpolation was to search data points with duplicate geographic latitude and longitude coordinates. A total of 106 duplicate values were found with data points containing identical geographic coordinates, but unique API identifiers. Our data suggests that some of the geographic coordinate duplicates were logged by different rig operators during different time periods. In addition, some of these wells were logged at different depths and record different bottom-hole temperatures.

Values with duplicate geographic locations cause the kriging system of equations to become singular and unsolvable because of large differences in values between closely space data points. To avoid this problem, a small “noise” offset in the 100 millionth’s place

(0.00000001) was assigned to duplicate geographic locations for the latitude coordinate only. By adding this "noise" the average location of the duplicate data point is in the originally recorded location.

The final dataset used for kriging interpolation included 7,779 data points. This dataset resulted from the removal of duplicate API numeric identifiers, the removal of the global and local outliers in Chapter 5, the removal of data in counties with less than 5 data points, and the addition of the small "noise" in data points with duplicate geographic locations.

6.6 Variogram Modeling

Variogram modeling starts with the experimental semivariogram, which describes how data are correlated with distance. The semivariogram is computed as the average semivariance of all point-pairs separated into bins (Rossiter, 2011; 2012). Semivariance measures the amount of spatial dependence between points. Bins refer to the grouping of measured points sorted by distance. The variogram modeling algorithm used in the *R Foundation for Statistical Computing* uses a default bin width that is one-third of the longest separation distance divided by fifteen equally spaced groups (Pebesma, 2004; Pebesma and Bivand, 2005; R Development Core Team, 2011; Rossiter, 2011; 2012). The experimental semivariogram is computed as shown in equation 6-14. The unique number of point-pairs is found by use of equation 6-15.

$$\gamma(h) = \frac{1}{2m(h)} \sum_{i=1}^{m(h)} [R(x_i + h) - R(x_i)]^2 \quad (6\text{-}14)$$

$$m(h) = \frac{(n(n-1))}{2} \quad (6\text{-}15)$$

where $\gamma(h)$ is the semivariance in units-squared, $m(h)$ is the number of point-pairs separated by bin width h, n is the total number of points in the dataset, $R(x_i+h)$ are the values of the neighboring variable at distance x_i+h, and $R(x_i)$ corresponds to the variable of interest at a specific location, x_i. As previously stated, the default bin width, h, is one-third of the longest separation distance divided by fifteen equally spaced groups, as defined by the variogram modeling algorithm used in the *R Foundation for Statistical Computing* (Pebesma, 2004; Pebesma and Bivand, 2005; R Development Core Team, 2011; Rossiter, 2011; 2012).

Semivariograms are defined through several parameters that include the cutoff distance, sill/partial sill, range, nugget, anisotropy, and model type. The cutoff distance is the distance where the experimental semivariogram appears to have reached the sill. The sill is reached when the semivariogram has a constant semivariance. There is no more increase in the variability of the data after the sill is reached. The partial sill is the sill minus the nugget. The distance at which the sill is reached is called the range. The range represents the distance where there is no more spatial dependence in the data. When there is a discontinuity in the origin of the semivariogram, the "nugget effect" applies. The "nugget effect" is attributed to measurement or positioning error, noisy datasets, or a short range within observation points (Chilès & Delfiner, 1999; 2012; Hengl, 2007; Rossiter, 2011; 2012). Anisotropy refers to the idea that parameter variations occur in different directions. The semivariogram model type refers to the shape of the semivariogram.

The experimental semivariogram for geothermal gradient (˚C/km) is shown in Figure 6.2. The cutoff distance was set to 475,000 feet (145 km). Beyond this distance the experimental semivariogram shows a constant decrease in semivariance. The distance unit of feet was defined from the EPSG Projection 2271 – NAD83 for northern Pennsylvania (Butler et al., 2007). The

semivariance unit for geothermal gradient is $(^{\circ}C/km)^2$. The open circles represent the bins with a specific number of point-pairs.

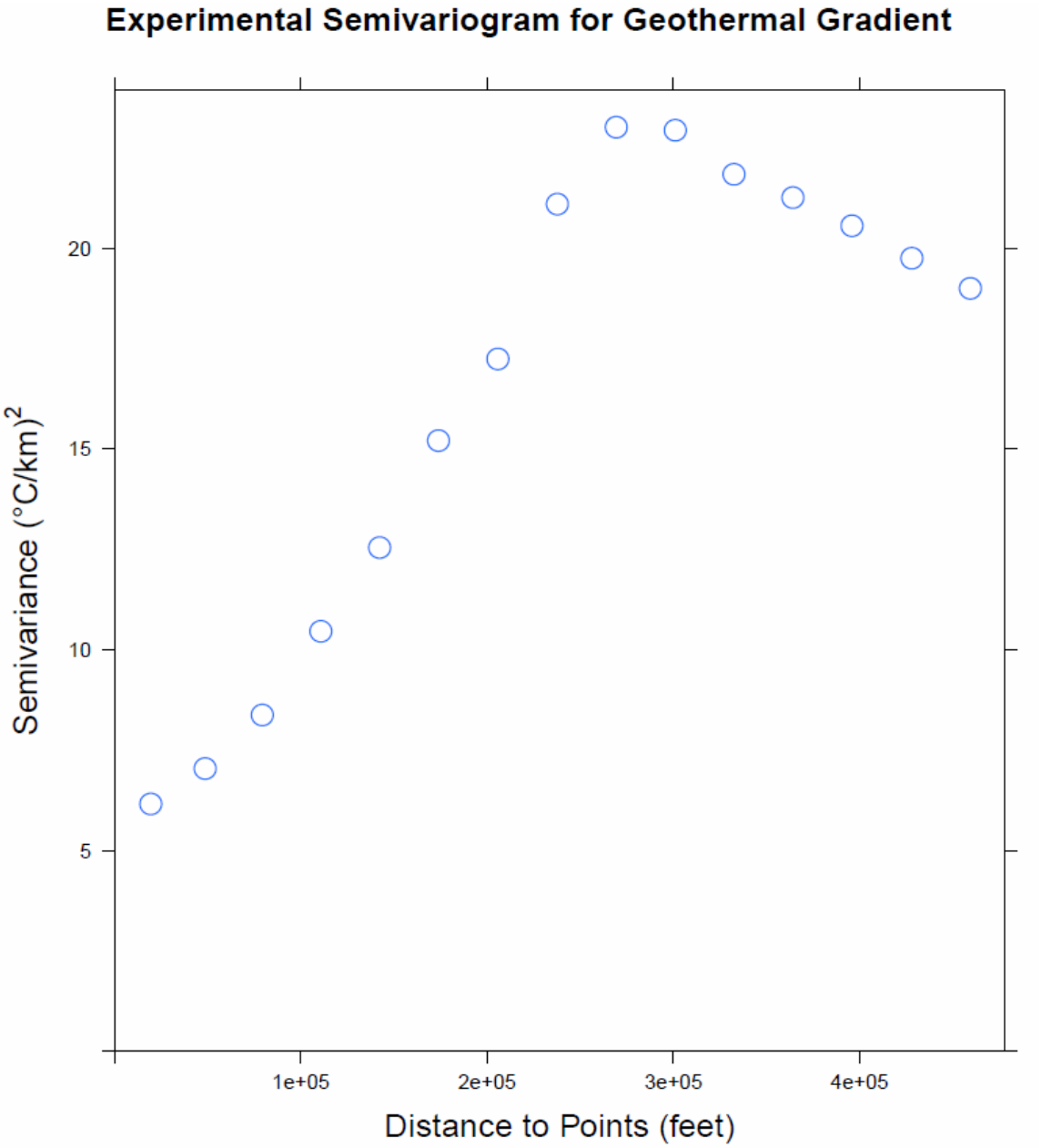


Figure 6.2: Experimental semivariogram for geothermal gradient in unit of $(^{\circ}C/km)^2$ and distance in unit of feet. The distance unit was defined from the EPSG Projection 2271 – NAD83 for northern Pennsylvania (Butler et al., 2007). The open circles represent the bins with a specific number of point-pairs.

An experimental semivariogram table was generated describing bin numbers, number of point-pairs in each bin, separation distance in each bin, and the associated semivariance in each bin, as shown in Table 6.1. The amount of semivariance depends on the distance between the points. The bin with the closest separation distance and the smallest semivariance is bin 1. Distance increases to bin 15 with the highest separation distance. Small semivariances describe point-pairs with more alike values, and larger semivariances describe point-pairs with more dissimilar values.

Bin	Point Pairs	Distance (ft.)	Distance (km)	Semivariance (˚C/km)²
1	4.8E+05	1.9E+04	5.9	6.2
2	9.3E+05	4.9E+04	14.8	7.0
3	1.1E+06	7.9E+04	24.2	8.4
4	1.1E+06	1.1E+05	33.7	10.5
5	1.1E+06	1.4E+05	43.4	12.5
6	9.7E+05	1.7E+05	53.0	15.2
7	9.0E+05	2.1E+05	62.7	17.2
8	8.9E+05	2.4E+05	72.4	21.1
9	9.6E+05	2.7E+05	82.1	23.0
10	1.0E+06	3.0E+05	91.7	22.9
11	1.0E+06	3.3E+05	101.3	21.8
12	1.0E+06	3.6E+05	111.0	21.3
13	1.0E+06	4.0E+05	120.6	20.6
14	1.2E+06	4.3E+05	130.4	19.8
15	1.3E+06	4.6E+05	140.0	19.0

Table 6.1: Experimental semivariogram table for geothermal gradient with number of points, separation distance (feet, km), and semivariance $(˚C/km)^2$ shown for each bin.

Anisotropy becomes important during the semivariogram modeling process when spatial variations in observed data are expected to display preferential directions. When anisotropy is present the model will show the same partial sill reached at different ranges. In this chapter, anisotropy was analyzed with the semivariogram surface map. Semivariogram surface maps allow for the calculation of semivariances from point-pairs whose separation distances are positioned in a particular lag spacing or cell width. Each lag spacing is representative of a preferential direction.

The computed parameters for anisotropy are the ratio and the angle. First, a major axis describing the preferential direction was established. Then, the minor axis was found perpendicular to the major axis. The anisotropy ratio was calculated from the ratio of the largest range by the smallest range at the same partial sill. The angle between the y-axis and the minor axis is the anisotropy angle.

Figure 6.3 shows the semivariogram surface map for geothermal gradient showing semivariances $(^{\circ}C/km)^2$ versus directional distances (Δx, Δy) in units of feet. The cutoff distance for the semivariogram surface map was set to 475,000 feet (145 km). The lag spacing or cell width is 31,667 feet (9.7 km), and the number of lags or number of cells is 15 for each of the 4 main directions (north, south, east, west) away from the origin (0,0). Anisotropy was found extending in a NE – SW direction, and is shown by the light green ellipsoidal shape passing through the origin. The orthogonal directions were found to be 41˚ (major axis) and 130˚ (minor axis) since the strongest spatial dependence, hence lowest semivariance over farthest distance, is 41˚ from north, as shown by the light green color extending in the NE – SW axis (Rossiter, 2011; 2012). The largest range was found at 2.95E+05 feet (90 km) in the NE quadrant. The smallest

range was found at 1.47E+05 feet (45 km) in the NW quadrant. The anisotropy ratio and anisotropy angle were calculated as 0.54 and 40˚, respectively.

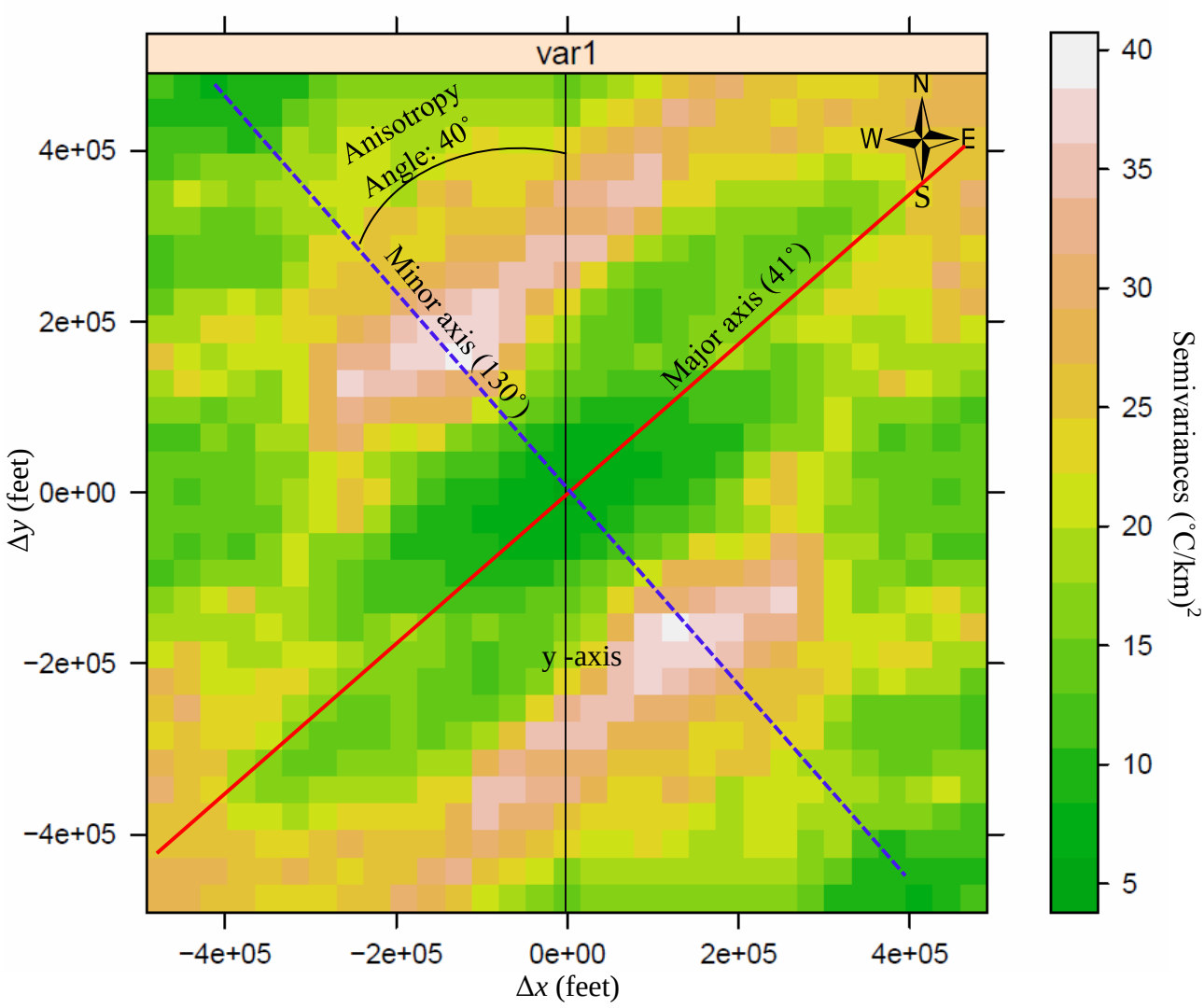


Figure 6.3: Semivariogram surface plot for geothermal gradient of semivariances $(^{\circ}C/km)^2$ versus directional distances (Δx, Δy) in units of feet to detect anisotropy ratio and anisotropy angle.

Because experimental semivariograms are often quite noisy, a variogram model type is used as the final input in ordinary kriging (OK) algorithms. Typical variogram models employ the power model, exponential model, Gaussian model, spherical model, or pure nugget model (Chilès & Delfiner, 1999; 2012; Hengl, 2007; Rossiter, 2011; 2012).

The power model is mostly applicable for data showing fractal patterns. The exponential and Gaussian models are characteristic of an asymptotic sill and a range representing the distance where the semivariance value is 95% of the sill. The spherical model starts off as a sharp curve leveling off as it reaches the sill at a specific range. Finally, the pure nugget model is representative of no existing spatial correlation, but mostly randomness in the data (Bohling, 2005; Rossiter, 2011; 2012).

The model type that best fits the experimental semivariogram shown in Figure 6.2 is the Gaussian model. In Figure 6.4, the Gaussian model type captures the slow increase in the semivariance from the start of the semivariogram to a distance of 200,000 feet (61 km). The Gaussian semivariogram model type is described below, where $\gamma(h)$ is the semivariance in units-squared separated by bins of size h, c is the partial sill, a is the range, and σ^2_n represents the "nugget effect".

$$\gamma(h) = \begin{cases} \sigma_n^2 + c\,[1 - exp\left(\frac{-(3h)^2}{a^2}\right)] & if\ h < a \\ \sigma_n^2 + c & if\ h \geq a \end{cases} \qquad (6\text{-}16)$$

The Gaussian semivariogram model for geothermal gradient, in Figure 6.4, shows a blue line indicating the approximated Gaussian semivariogram fit. The Gaussian semivariogram model closely fits the experimental semivariogram through a distance of 200,000 feet (61 km), and is able to capture the slow increase in semivariances at distances less than 100,000 feet (30 km). The fitted Gaussian semivariogram model determines the values of the partial sill, range, and nugget used during the kriging interpolation. The partial sill was found to be 16.8 (˚C/km)^2. The range was 276,000 feet (84 km). The point-pairs beyond the range distance of 84 km are no

longer spatially correlated, and maintain a constant semivariance value of 16.8 $(^{\circ}C/km)^2$. The nugget was 6.0 $(^{\circ}C/km)^2$. The Gaussian semivariogram model of geothermal gradient accounts for the anisotropy ratio and anisotropy angle previously discussed.

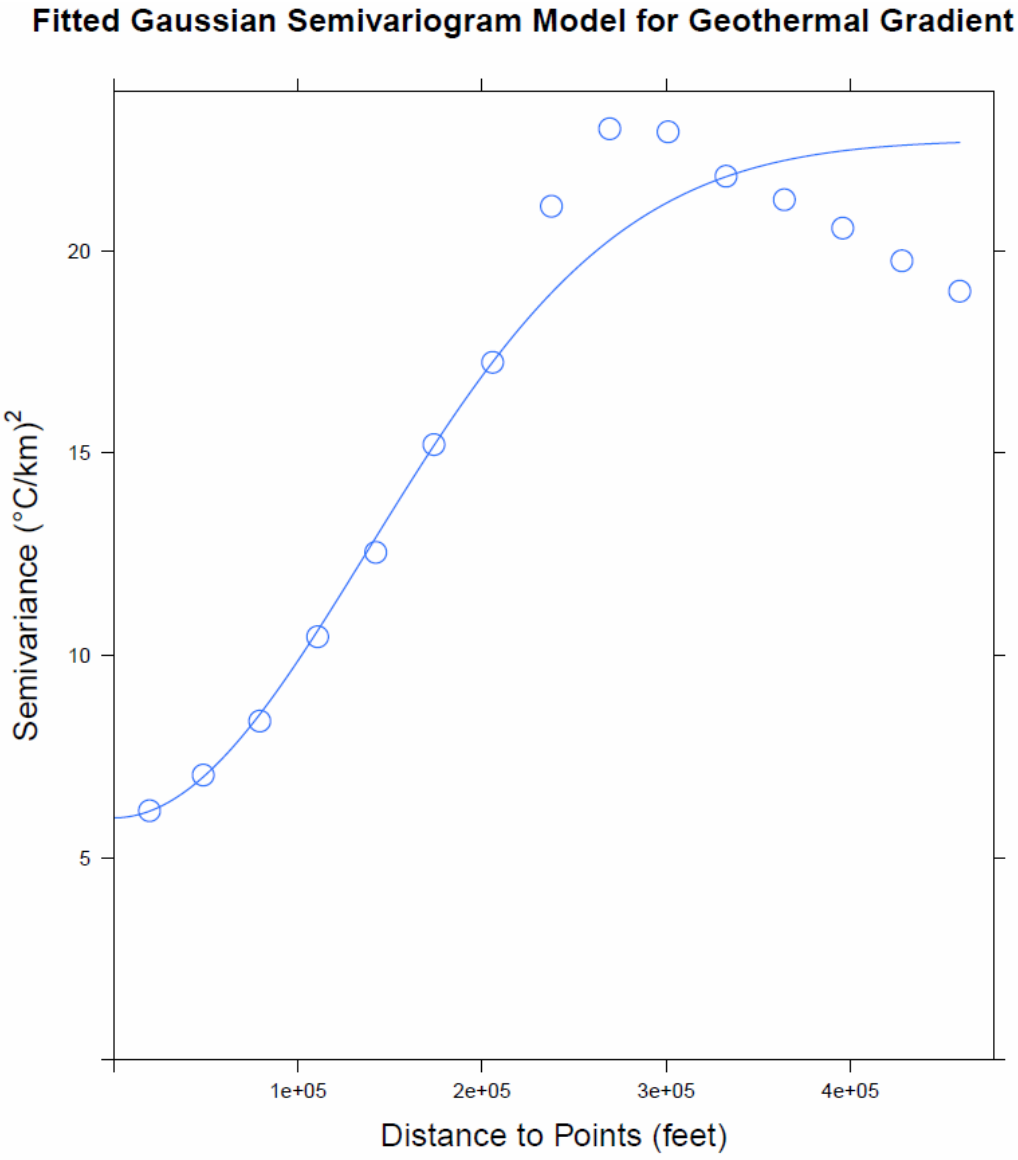


Figure 6.4: Fitted Gaussian semivariogram model for geothermal gradient for the Appalachian Basin of New York and Pennsylvania. Semivariances in unit of $(^{\circ}C/km)^2$ and distance in unit of feet. The distance unit was defined from the EPSG Projection 2271 – NAD83 for northern Pennsylvania (Butler et al., 2007).

The semivariogram modeling procedure described above was applied to geothermal gradient, surface heat flow, estimated temperatures (˚C) at depths of 3 km, 4.5 km and 6 km, and estimated depths (m) to the 80 ˚C and 150 ˚C isotherms for the dataset of the Appalachian Basin of New York and Pennsylvania. The Gaussian semivariogram model type was a good fit for all the geothermal variables. The partial sill (c), range (a) , nugget (σ^2), and anisotropy angle (θ) and ratio (ϕ) for each geothermal parameter are summarized in table 6.2.

	Gaussian Semivariogram Model Parameters				
Geothermal Variables	**Nugget, $\sigma^2{}_n$**	**Partial sill, c**	**Range, a (feet)**	**Range, a (km)**	**Anisotropy, θ, ϕ (degrees, 1)**
Geothermal Gradient	6.0 (˚C/km)²	16.8 (˚C/km)²	2.8E+05	84.0	40, 0.54
Surface Heat Flow	34.3 (mW/m²)²	82.1 (mW/m²)²	2.3E+05	71.6	39, 0.54
Estimated Temperature at 3 km	48.1 (˚C)²	138.8 (˚C)²	2.4E+05	72.8	32, 0.55
Estimated Temperature at 4.5 km	101.0 (˚C)²	365.1 (˚C)²	2.6E+05	80.4	34, 0.49
Estimated Temperature at 6 km	160.3 (˚C)²	572.3 (˚C)²	2.6E+05	78.4	38, 0.54
Estimated Depth to 80 ˚C Isotherm	2.2E+05 (m)²	8.3E+05 (m)²	2.8E+05	85.9	30, 0.45
Estimated Depth to 150 ˚C Isotherm	7.0E+05 (m)²	3.7E+06 (m)²	3.0E+05	92.3	30, 0.53

Table 6.2: Comparison of the fitted Gaussian semivariogram modeling output for geothermal gradient (˚C/km), surface heat flow (mW/m^2), estimated temperatures (˚C) at depths of 3 km, 4.5 km and 6 km, and estimated depths (m) to the 80 ˚C and 150 ˚C isotherms for the Appalachian Basin of New York and Pennsylvania.

Variogram modeling and ordinary kriging (OK) interpolation were made with the use of *R Foundation for Statistical Computing* (R Development Core Team, 2011) and with *ArcGIS 10* (ESRI, Inc, 2010). The packages used in the *R Foundation for Statistical Computing* program include *sp*: Classes and Methods for Spatial Data (Pebesma and Bivand, 2005), *gstat*: Spatial and Spatio-temporal Geostatistical Modeling, Prediction and Simulation (Pebesma, 2004), *lattice*: Lattice Graphics (Sarkar, 2008), *spdep*: Spatial Dependence: Weighting Schemes, Statistics and

Models (Bivand et al., 2011), *maptools*: Tools for Reading and Handling Spatial Objects (Bivand et al., 2014), and *rgdal*: Bindings for the Geospatial Data Abstraction Library (Bivand et al., 2014).

6.7 Kriging Geostatistical Interpolation Maps

Kriging interpolation maps for geothermal variables including geothermal gradient, surface heat flow, estimated temperatures (˚C) at depths of 3 km, 4.5 km and 6 km, and estimated depths (m) to the 80 ˚C and 150 ˚C isotherms were constructed.

For each geothermal variable, kriging interpolation maps employ the Gaussian semivariogram model parameters shown in table 6.2. Besides the semivariogram model parameters, other kriging interpolation parameters can be considered for the estimation. These parameters include the minimum and maximum number of data points and maximum search distance used for the estimation at each grid node. When all of the data points in a dataset are used global interpolation occurs. When only a subset of the data points in the dataset are used local interpolation occurs. For both cases, the global semivariogram model fitted for the entire dataset can be used to determine the kriging weights and the kriging variance-of-prediction. In some cases, the global semivariogram model may not be an adequate fit for local interpolation. A local semivariogram model may be used for local fitting of the data.

For this analysis, a minimum and maximum number of points and a maximum search distance criterion were established. Specifying a minimum number of points becomes important in the kriging estimation of data sparse areas. Likewise, specifying a maximum number of points in areas of high data density improves the efficiency of the kriging interpolation. The

maximum search distance criterion was established to ensure that the majority of the observed data points, especially in data sparse regions, were contained within the estimation area.

An optimal balance between the minimum and maximum number of points criterion is necessary. If the criterion for the minimum number of points is set too high, then there will likely be holes in the map where kriging interpolation is ignored in areas of sparse data density. If the maximum number of points criterion is set too high, the signal in local areas is perhaps overly smooth. On the other hand, choosing a maximum number of points criterion that is too low will likely produce very "noisy" estimates and the variance-of-prediction will be higher. For this analysis, the optimal balance between the minimum and maximum number of points was 20 and 25, respectively. The maximum search distance criterion that ensured that at least 20 points were included in the estimation was found at 175,000 feet (53 km) radially from each estimation point. For each geothermal variable, local interpolation was used with the global Gaussian semivariogram model fit parameters (*see table 6.2*) using a minimum and maximum number of points, 20 and 25, respectively, and a maximum search distance of 175,000 feet (53 km).

The kriging estimates and the standard error of kriging estimates for geothermal gradient are shown in Figures 6.5 and 6.6, respectively. From our analysis, the average estimated geothermal gradient for New York State is 22.5 ˚C/km. The average estimated geothermal gradient for Pennsylvania is 23.9 ˚C/km. The precision in the estimation of any point (standard errors) within the interpolated area of New York State and Pennsylvania ranged from 0.5 – 4.0 ˚C/km. The precision in the estimates between 0.5 – 1.0 ˚C/km correspond to areas with high data density. The kriging estimation in areas of high data density was limited to 25 points within a maximum search distance of 53 km. Areas with modest data density display precision in the estimates between 1 – 2 ˚C/km. Areas with sparse or no data display precision in

the estimates as high as 4.0 ˚C/km. The kriging estimation in areas of sparse or no data was limited to 20 points within a maximum search distance of 53 km.

Previous studies have suggested areas of high geothermal gradients in central and western New York, including Cayuga Lake, East Aurora, and Elmira (Hodge et al., 1981; Hodge and Fromm, 1984; Hodge, 1996). In particular, Hodge et al. (1981), Hodge and Fromm (1984), and Hodge (1996) suggested geothermal gradients in the range of 32 – 36 ˚C/km for these regions. Our analysis does not indicate gradients as high as those suggested by Hodge et al. (1981, 1984, 1996). From our analysis, geothermal gradients for central New York are estimated to range from 22.7 – 29.4 ˚C/km with a precision in the estimates between 0.5 – 1.1 ˚C/km. Modest gradients, greater than 25 ˚C/km and with a precision within 1.0 ˚C/km, are recorded in the counties of Yates, Seneca, and Tompkins. Estimated geothermal gradients for southwestern New York ranged from 23.0 - 27.5 ˚C/km with a precision in the estimates between 0.5 – 1.0 ˚C/km. Modest gradients are recorded in southwest Cattaraugus County. A map highlighting the counties included in each of the regions for New York State and Pennsylvania is included in Appendix B.

From our analysis, estimated geothermal gradients for north central Pennsylvania range from 20.4 – 29.1 ˚C/km with a precision in the estimates between 0.5 – 1.3 ˚C/km. In south central Pennsylvania, estimated gradients range from 20.2 – 31.6 ˚C/km with precision in the estimates between 0.5 – 1.4 ˚C/km. Modest gradients, greater than 25 ˚C/km and with a precision within 1.0 ˚C/km, are recorded in the counties of Potter, Cameron, Clearfield, Indiana, Westmoreland, Somerset, and Fayette.

Estimated geothermal gradients in western Pennsylvania ranged from 23.1 – 29.0 ˚C/km with precision in the estimates between 0.5 – 1.6 ˚C/km. Modest gradients are recorded in several northwestern and southwestern counties in Pennsylvania. Previously recorded values in Pennsylvania have suggested high geothermal gradients in the northwestern and north central part of the state. In particular, Eckstein et al. (1982) identified Venango and Clarion counties as having geothermal gradients greater than 30 ˚C/km. Our analysis does not indicate gradients for Venango and Clarion counties as high as those suggested by Eckstein et al. (1982). From our analysis, Venango County gradients range from 25 – 28 ˚C/km with precision in the estimates between 0.5 – 1.6 ˚C/km. For Clarion County, gradients range from 17.0 – 27.0 ˚C/km with precision in the estimates between 0.5 – 1.2 ˚C/km.

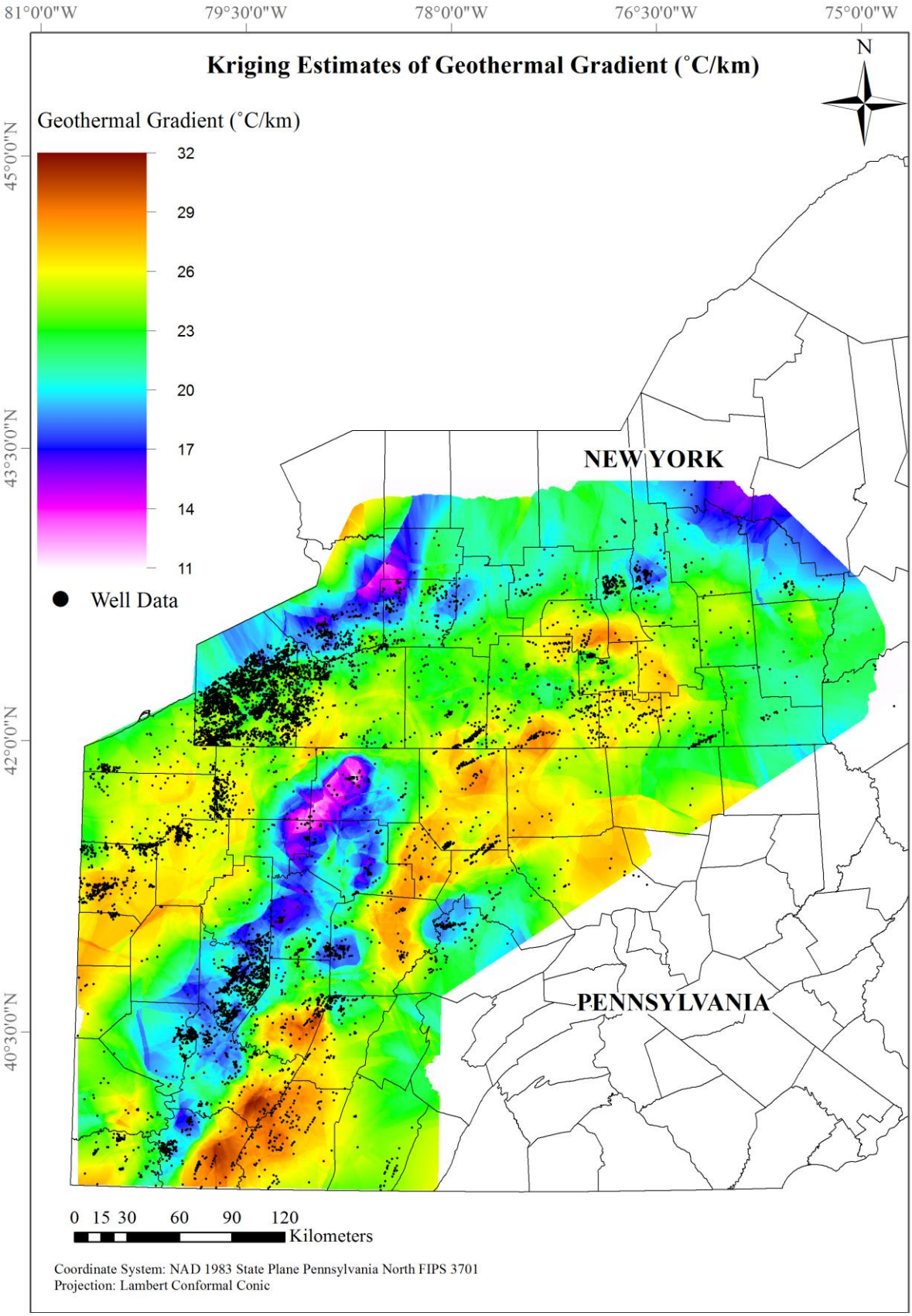


Figure 6.5: Kriging estimates of geothermal gradient (˚C/km) for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

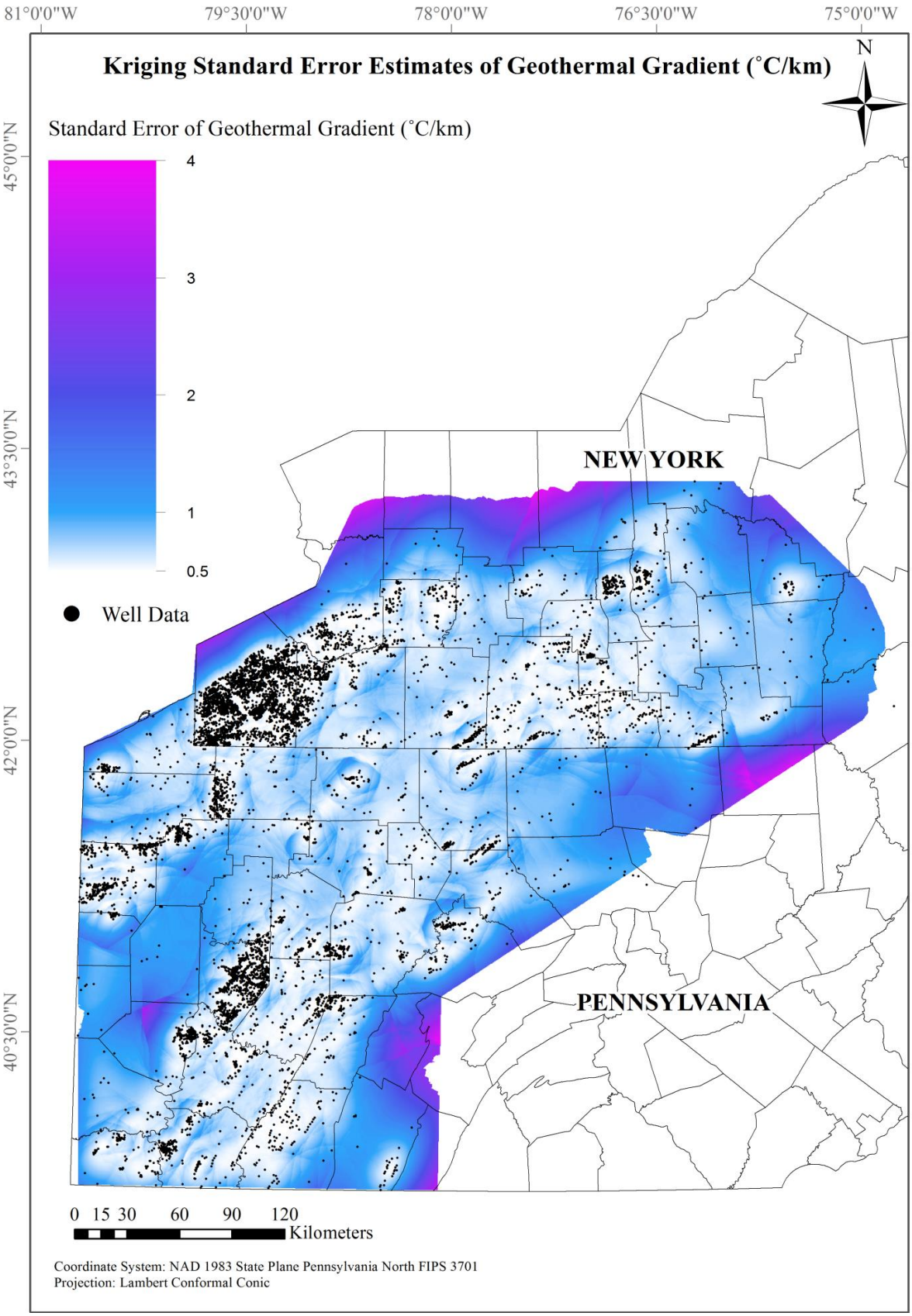


Figure 6.6: Standard error of kriging estimates of geothermal gradient (˚C/km) for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates for surface heat flow are shown in Figures 6.7 and 6.8, respectively. From our analysis, the average estimated surface heat flow for New York State is 48.4 mW/m^2. The average estimated surface heat flow in Pennsylvania is 59.5 mW/m^2. The precision in the estimation of any point (standard errors) within the interpolated region of New York and Pennsylvania ranged from 1.2 – 9.0 mW/m^2. The precision in the estimates between 1.2 – 3.0 mW/m^2 correspond to areas with high data density. Areas with modest data density display precision in the estimates between 3.0 – 5.0 mW/m^2. Areas with sparse or no data display precision in the estimates as high as 9.0 mW/m^2.

From our analysis, areas of modest surface heat flow values in New York State appear in several central and southwestern counties. Estimated heat flow for central New York ranged from 46.7 – 63.0 mW/m^2 with a precision in the estimates between 1.2 – 2.8 mW/m^2. Estimated heat flow for southwestern New York ranged from 50.0 – 59.5 mW/m^2 with a precision in the estimates between 1.2 – 2.5 mW/m^2. Modest heat flow values in New York, greater than 55 mW/m^2 and with a precision within 2.0 mW/m^2, are recorded in the counties of Yates, Seneca, Schuyler, Tompkins, Tioga, Chemung, Steuben, Cattaraugus, and Chautauqua.

Estimated heat flow for north central Pennsylvania ranged from 49.6 – 85.9 mW/m^2 with a precision in the estimates between 1.2 – 3.3 mW/m^2. The highest recorded heat flow appears in Potter County with a precision within 2 mW/m^2. Modest heat flow values in Pennsylvania are noticed in the north central counties of Cameron and Clearfield. The estimated heat flow values in Cameron and Clearfield are in the range of 65 – 70 mW/m^2 with a precision within 2 mW/m^2. In south central Pennsylvania, estimated heat flow values range from 47.8 – 82.4 mW/m^2 with precision in the estimates between 1.2 – 3.6 mW/m^2. The south central counties of Indiana,

Westmoreland, Fayette, and Somerset record heat flow values in the range of 70 – 80 mW/m^2 with a precision within 2 mW/m^2. The low heat flow area (35 – 45 mW/m^2) located to the west of the eastern border of the Appalachian Mountains in Pennsylvania has previously been recorded as an area of lower-than-average heat flow. Studies suggest that this anomaly could be a result of low heat production from the crust and/or from redistribution of heat by groundwater flow (Blackwell et al., 1991).

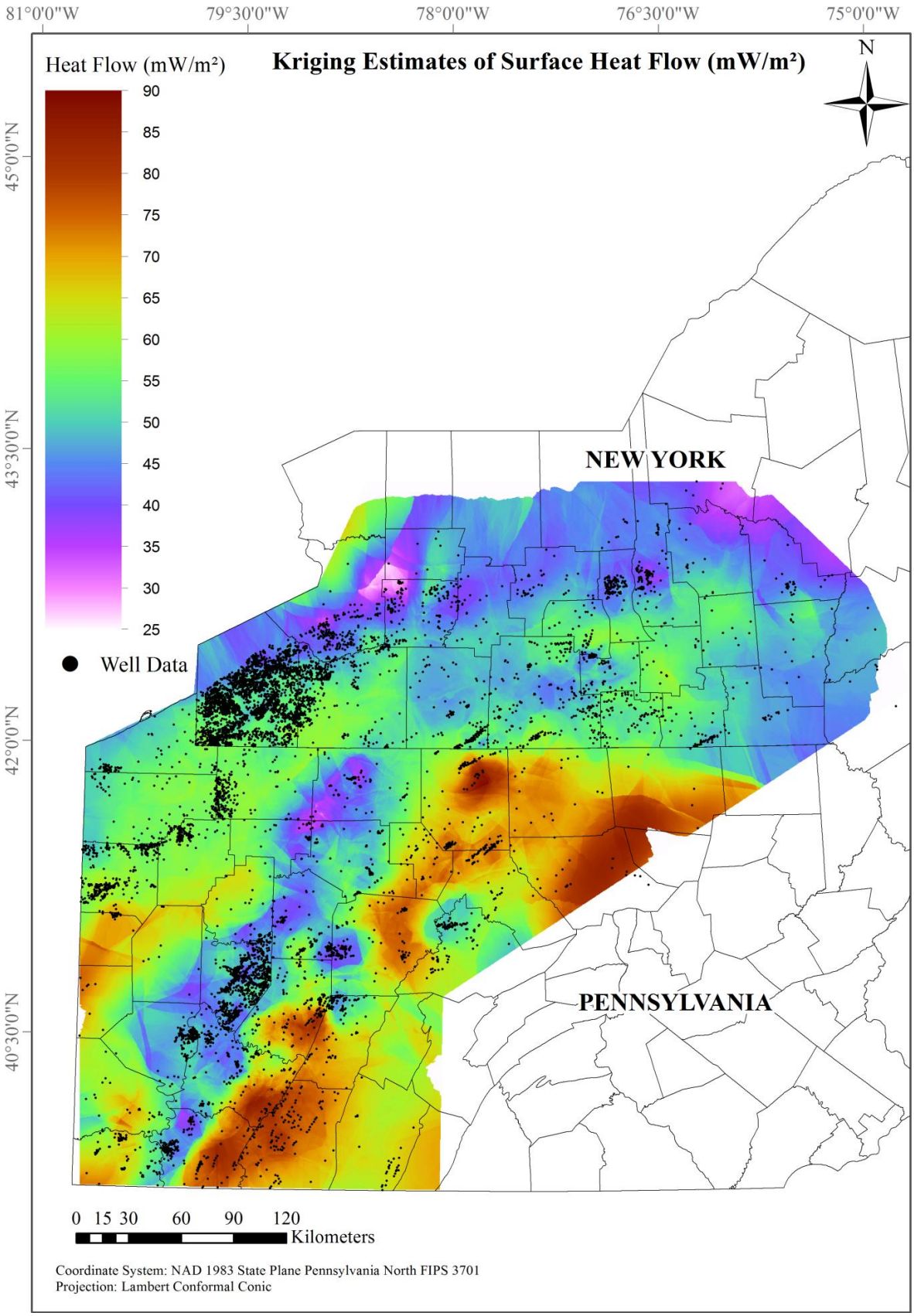


Figure 6.7: Kriging estimates of surface heat flow (mW/m^2) for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

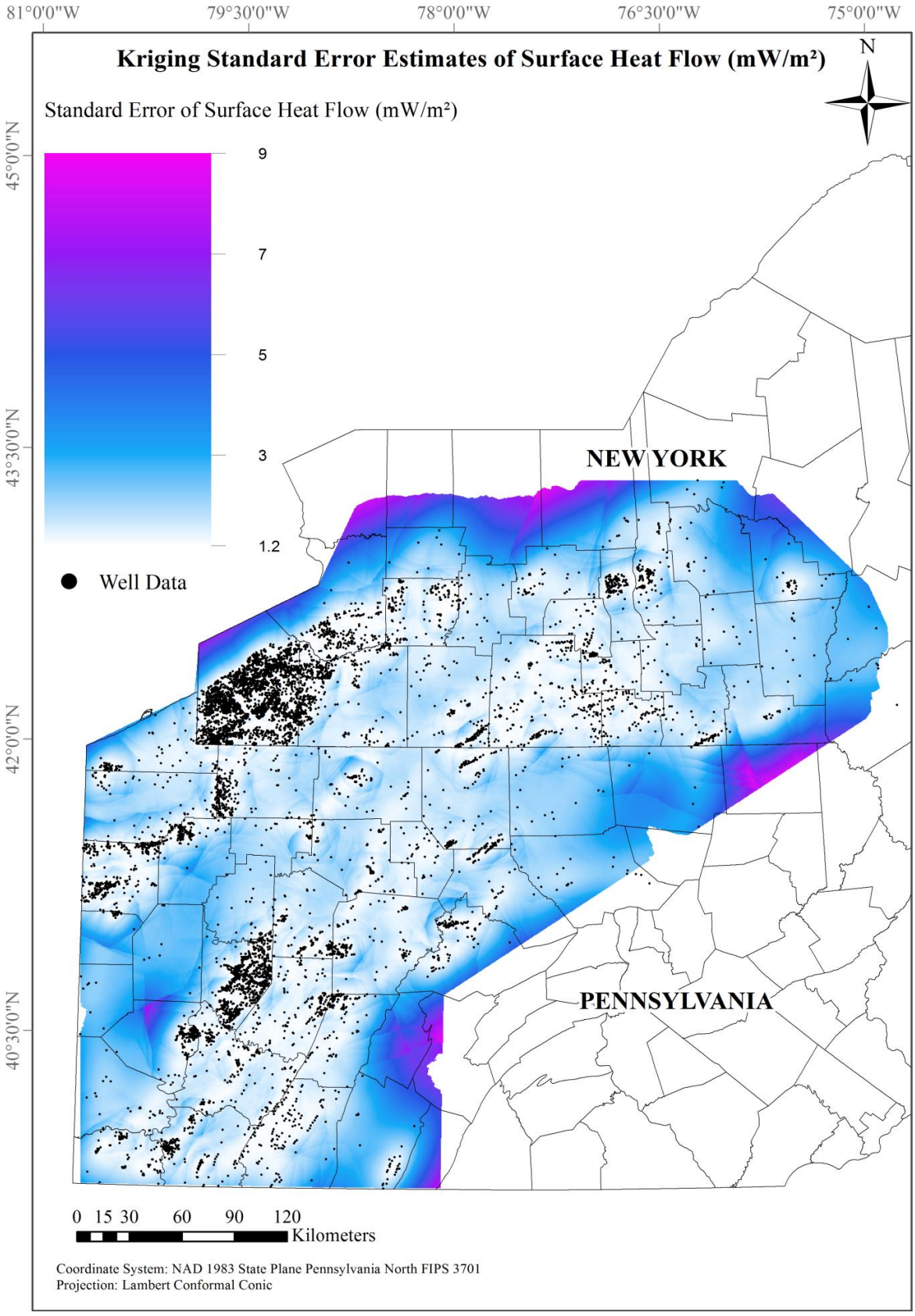


Figure 6.8: Standard error of kriging estimates of surface heat flow (mW/m^2) for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates of temperature-at-depth of 3 km are shown in Figures 6.9 and 6.10, respectively. From our analysis, the average estimated temperature-at-depth of 3 km for New York State is 67.8 ˚C. The average estimated temperature-at-depth of 3 km for Pennsylvania is 80.1 ˚C. The precision in the estimates within the interpolated region ranged from 1.4 – 11.0 ˚C. The precision in the estimates between 1.4 – 3.0 ˚C correspond to areas with high data density. Areas with modest data density display precision in the estimates between 3 – 5 ˚C. Areas with sparse or no data display precision in the estimates as high as 11 ˚C.

From our analysis, estimated temperatures for central New York ranged from 67.2 – 90.7 ˚C with a precision in the estimates between 1.4 – 3.0 ˚C. Specifically, the counties of Yates, Seneca, Tompkins, and Chemung exceed temperatures of 80 ˚C at a depth of 3 km with a precision within 2 ˚C. Areas that achieve temperatures greater than 80 ˚C are favorable for direct thermal use for district heating systems and/or combined heat and power.

In north central Pennsylvania, estimated temperatures range from 69.0 – 106.4 ˚C with a precision in the estimates between 1.4 – 3.9 ˚C. Potter County exceeds temperatures of 100 ˚C with a precision within 2 ˚C. The counties of Cameron and Clearfield exceed temperatures of 90 ˚C with a precision within 2 ˚C. In south central Pennsylvania, estimated temperatures range from 66.8 – 102.9 ˚C with a precision in the estimates between 1.4 – 4.7 ˚C. The counties of Indiana, Westmoreland, Fayette, and Somerset exceed temperatures of 90 ˚C with a precision within 2 ˚C. In northwestern Pennsylvania, estimated temperatures range from 73.3 – 95.9 ˚C with a precision in the estimates between 1.4 – 4.6 ˚C. In southwestern Pennsylvania, estimated temperatures range from 68.3 – 93.7 ˚C with a precision in the estimates between 1.4 – 3.9 ˚C.

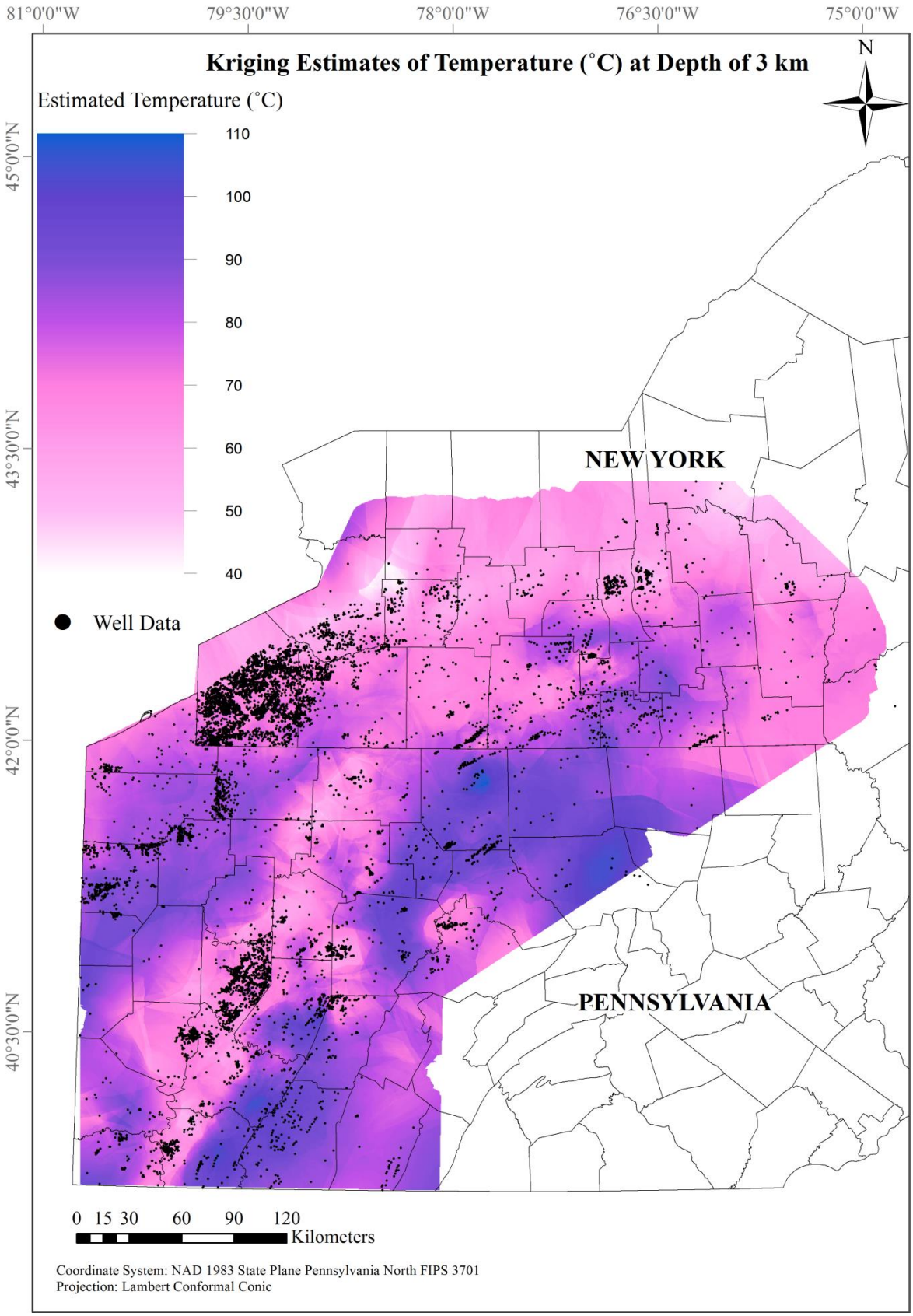


Figure 6.9: Kriging estimates of temperature (˚C) at depth of 3 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

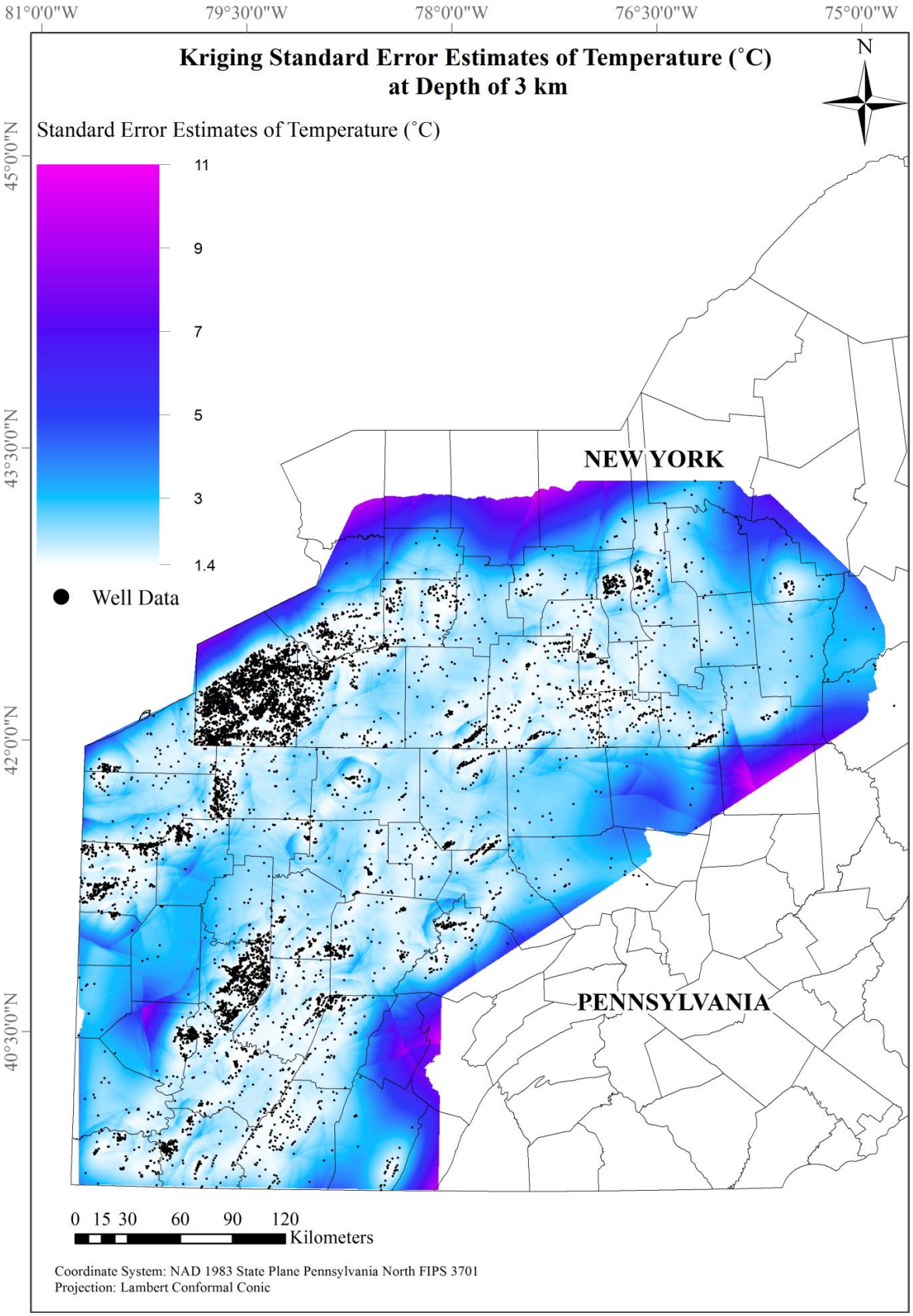


Figure 6.10: Standard error of kriging estimates of temperature (˚C) at depth of 3 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates of temperature-at-depth of 4.5 km are shown in Figures 6.11 and 6.12, respectively. From our analysis, the average estimated temperature-at-depth of 4.5 km for New York State is 92.3 ˚C. The average estimated temperature-at-depth of 4.5 km in Pennsylvania is 118.3 ˚C. The precision in the estimates within the interpolated region ranged from 2.0 – 18.0 ˚C. The precision in the estimates between 2 – 6 ˚C correspond to areas with high data density. Areas with modest data density display precision in the estimates between 6 – 10 ˚C. Areas with sparse or no data display precision in the estimates as high as 18 ˚C.

From our analysis, estimated temperatures-at-depth of 4.5 km for central New York ranged from 91.0 – 126.2 ˚C with a precision in the estimates between 2.0 – 4.5 ˚C. Specifically, the counties of Seneca, Schuyler, Tompkins, Chemung, and Tioga exceed temperatures of 100 ˚C km with a precision within 3.0 ˚C. Several counties in southwestern New York, including Steuben and Cattaraugus, also exceed 100 ˚C with a precision within 4 ˚C.

From our analysis, estimated temperatures-at-depth of 4.5 km in north central Pennsylvania range from 100.5 – 187.5 ˚C with a precision in the estimates between 2.0 – 6.3 ˚C. In Potter County, temperatures surpass 160.0 ˚C with a precision within 4.0 ˚C. The counties of Cameron and Clearfield exceed temperatures of 140.0 ˚C with a precision within 3.0 ˚C. In south central Pennsylvania, estimated temperatures range from 95.8 – 161.8 ˚C with a precision in the estimates between 2.0 – 7.4 ˚C. The counties of Indiana, Westmoreland, Fayette, and Somerset exceed temperatures of 150 ˚C with a precision within 3 ˚C.

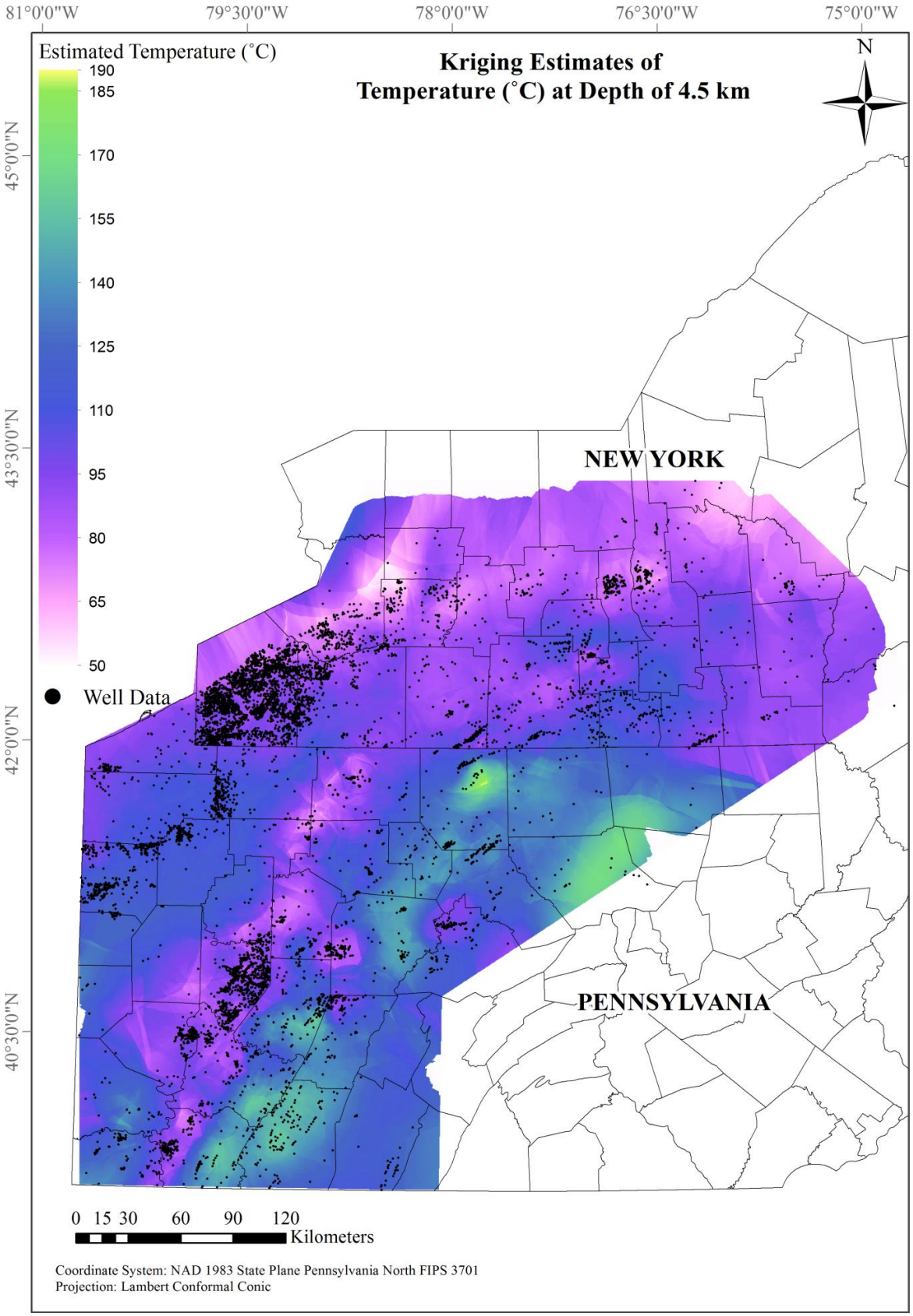


Figure 6.11: Kriging estimates of temperature (˚C) at depth of 4.5 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

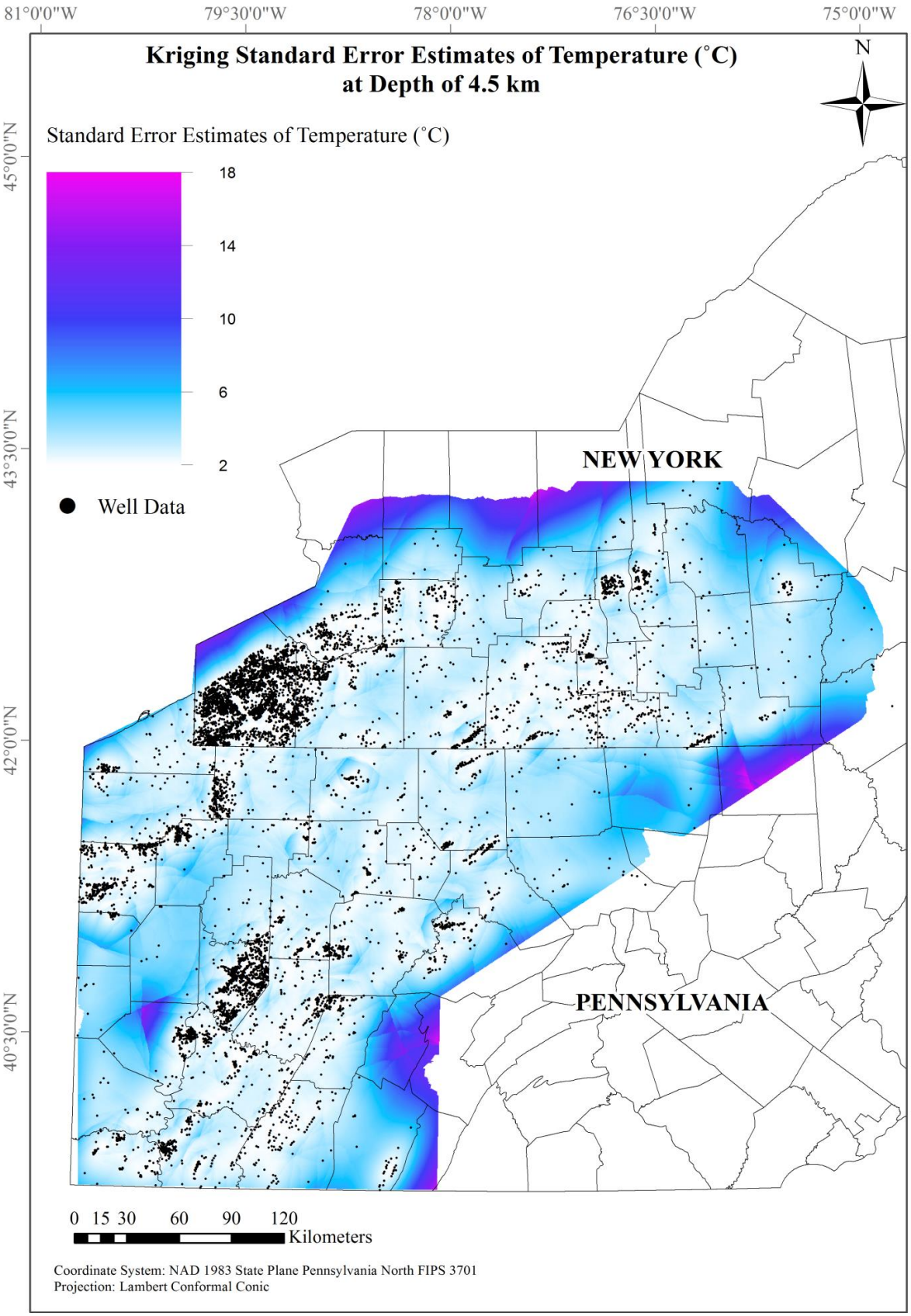


Figure 6.12: Standard error of kriging estimates of temperature (˚C) at depth of 4.5 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates of temperature-at-depth of 6 km are shown in Figures 6.13 and 6.14, respectively. From our analysis, the average estimated temperature-at-depth of 6 km for New York State is 115.5 ˚C. The average expected temperature-at-depth of 6 km in Pennsylvania is 149.4 ˚C. The precision in the estimates within the interpolated region ranged from 2.5 – 22.0 ˚C. The precision in the estimates between 2.5 – 7.0 ˚C correspond to areas with high data density. Areas with modest data density display precision in the estimates between 7 – 12 ˚C. Areas with sparse or no data display precision in the estimates as high as 22 ˚C.

From our analysis, estimated temperatures-at-depth of 6 km for central New York ranged from 114.0 – 154.9 ˚C with a precision in the estimates between 2.5 – 5.7 ˚C. Specifically, the counties of Yates, Seneca, Schuyler, Tompkins, Chemung, and Tioga exceed temperatures of 130 ˚C with a precision within 4 ˚C.

From our analysis, estimated temperatures-at-depth of 6 km in north central Pennsylvania range from 125.4 – 231.7 ˚C with a precision in the estimates between 2.5 – 7.5 ˚C. In Potter County, temperatures exceed 200 ˚C with a precision within 5 ˚C. The counties of Cameron and Clearfield exceed temperatures of 180 ˚C with a precision within 4 ˚C. In south central Pennsylvania, estimated temperatures range from 121.7 – 205.9 ˚C with a precision in the estimates between 2.5 – 8.7 ˚C. The counties of Indiana, Westmoreland, Fayette, and Somerset exceed temperatures of 180 ˚C with a precision within 4 ˚C. In western Pennsylvania, estimated temperatures range from 122.0 – 189.0 ˚C with a precision in the estimates between 2.5 – 9.0 ˚C. The estimated temperatures for the western counties of Washington, Greene, Beaver, and Lawrence exceed 160 ˚C with a precision within 6 ˚C.

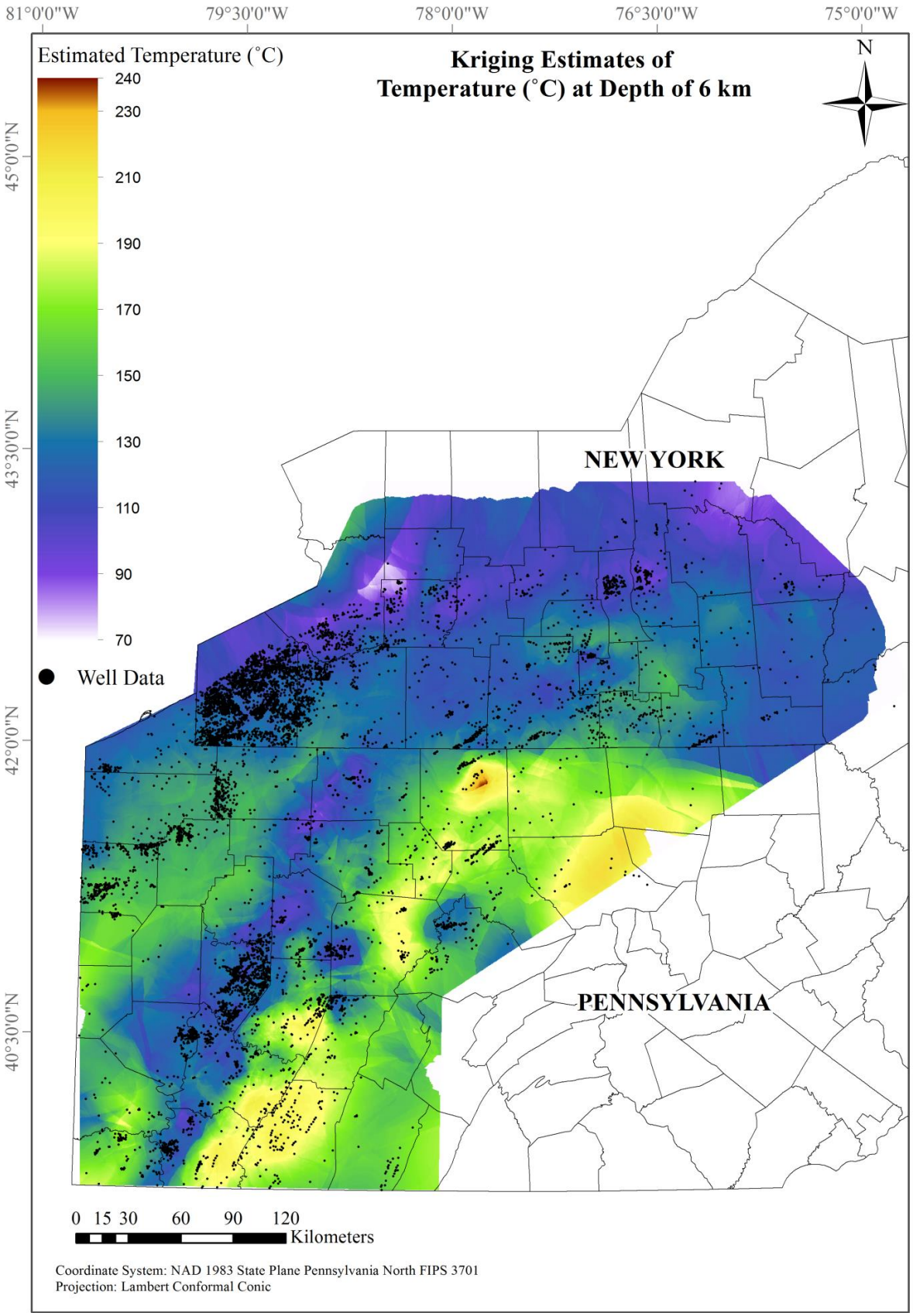


Figure 6.13: Kriging estimates of temperature (˚C) at depth of 6 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

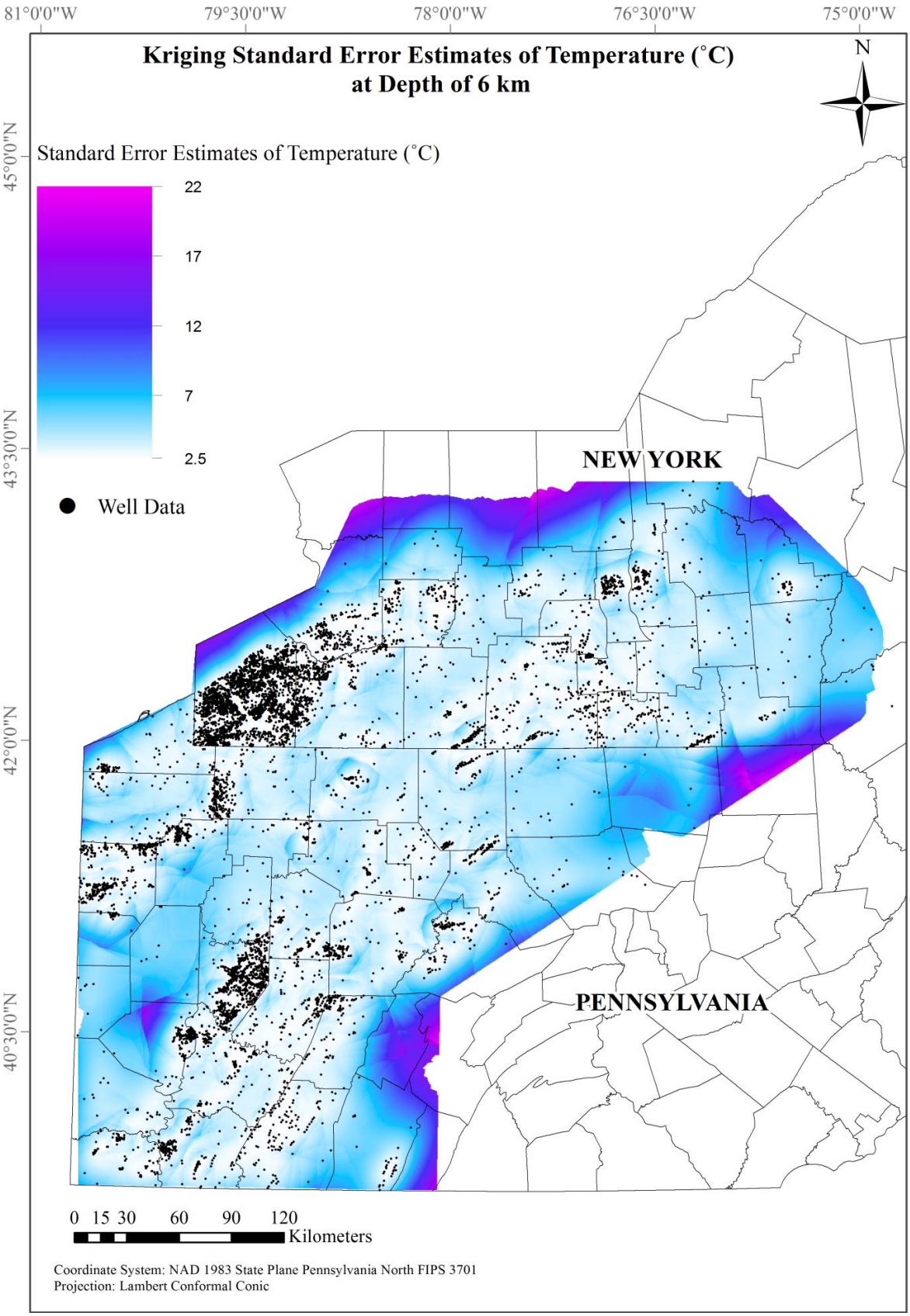


Figure 6.14: Standard error of kriging estimates of temperature (˚C) at depth of 6 km for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates of depth (m) to the 80 ˚C isotherm are shown in Figures 6.15 and 6.16, respectively. From our analysis, the average estimated depth to the 80 ˚C isotherm for New York State is 4.4 km. The average estimated depth for Pennsylvania is 3.2 km. The precision in the estimates within the interpolated area ranged from 94 – 900 meters. The precision in the estimates between 94 – 200 meters correspond to areas with high data density. Areas with modest data density display precision in the estimates between 200 – 400 meters. Areas with sparse or no data display precision in the estimates as high as 900 meters.

In central New York, estimated depths to the 80 ˚C isotherm range from 2.5 – 4.7 km. The precision in the estimates in central New York is within 250 meters. Specifically, the counties of Tompkins and Chemung can reach temperatures of 80 ˚C within a depth of 3 km. The precision in the estimates in Tompkins and Chemung counties is within 200 meters.

Estimated depths to the 80 ˚C isotherm in north central Pennsylvania range from 2.5 – 4.0 km. The precision in the estimates in north central Pennsylvania is within 283 meters. In the north central counties of Potter, Cameron, and Clearfield temperatures of 80 ˚C can be reached within a depth of 3.0 km. The precision in the estimates in these north central counties is within 200 meters. In south central Pennsylvania, estimated depths range from 2.3 – 3.9 km with a precision within 457 meters. The counties of Indiana, Westmoreland, Fayette, and Somerset in south central Pennsylvania can reach temperatures of 80 ˚C within a depth of 3 km. The precision of the estimates in these counties is within 200 meters. In western Pennsylvania, estimated depths range from 2.5 – 4.0 km. The precision of the estimates in western Pennsylvania is within 340 meters. Several counties in northwestern Pennsylvania can reach the 80 ˚C isotherm at depths less than 3 km with a precision within 200 meters.

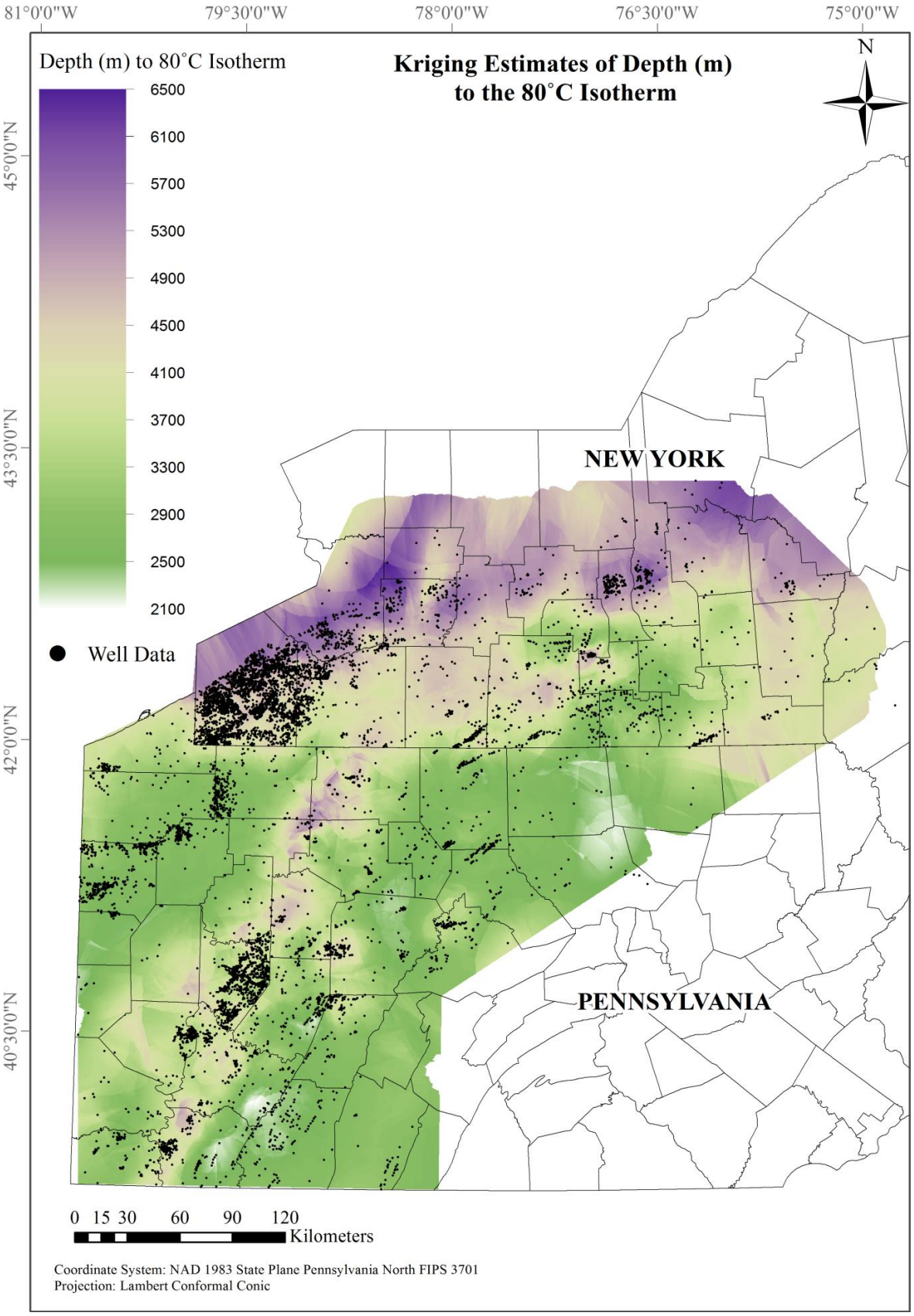


Figure 6.15: Kriging estimates of depth (m) to the 80 ˚C isotherm for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

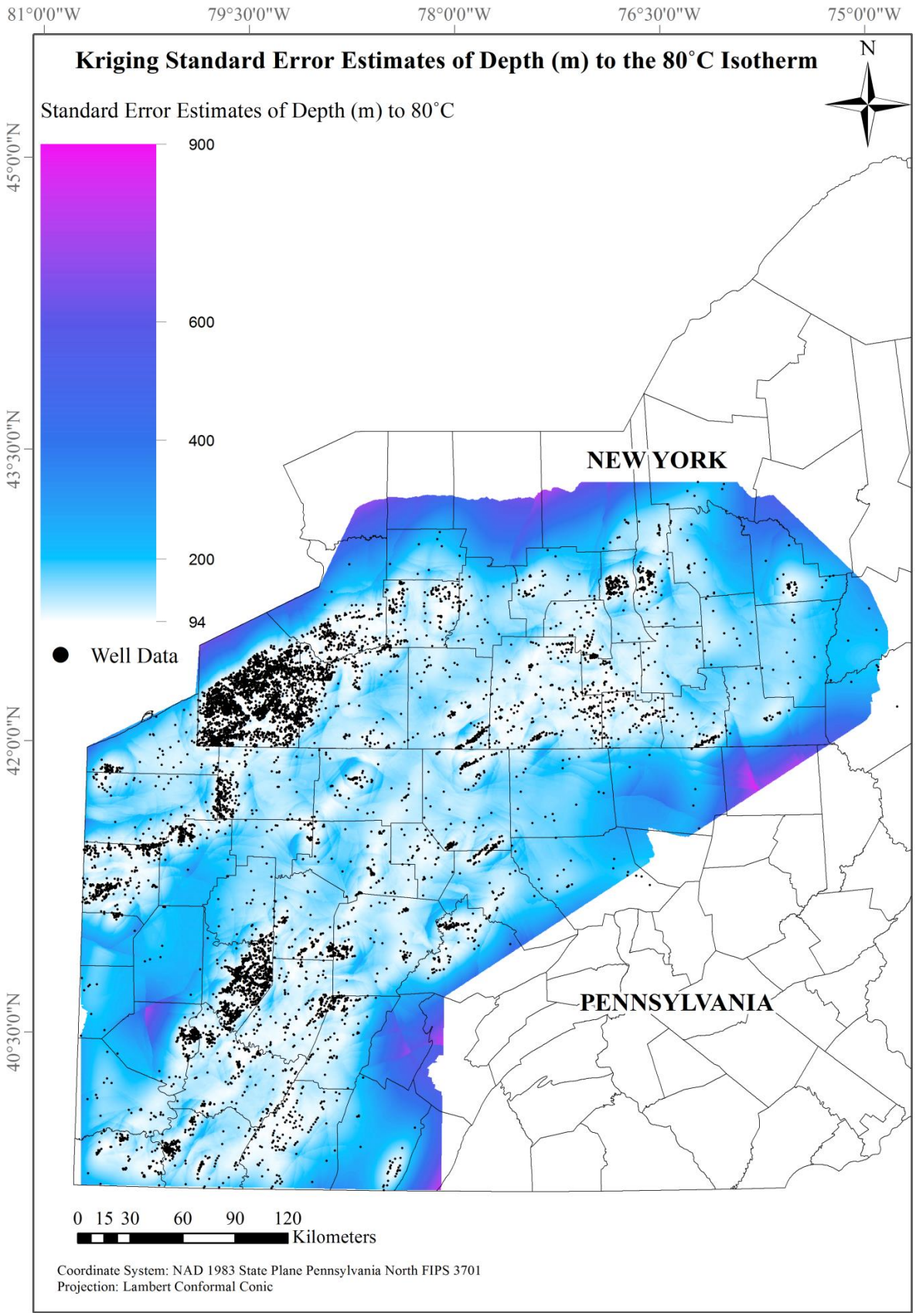


Figure 6.16: Standard error of kriging estimates of depth (m) to the 80 ˚C isotherm for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

The kriging estimates and the standard error of kriging estimates of depth (m) to the 150 ˚C isotherm are shown in Figures 6.17 and 6.18, respectively. From our analysis, the average expected depth to the 150 ˚C isotherm for New York State is 10.0 km. In Pennsylvania, the average expected depth is 6.9 km. The precision in the estimates within the interpolated region ranged from 150 – 1600 meters. The precision in the estimates between 150 – 400 meters correspond to areas with high data density. Areas with modest data density display precision in the estimates between 400 – 800 meters. Areas with sparse or no data display precision in the estimates as high as 1600 meters.

Several counties in the easternmost border of the Appalachian Basin in Pennsylvania record estimated depths of 5.5 km to the 150 ˚C isotherm with a precision within 800 meters. Most counties in New York State and Pennsylvania estimate depths to the 150 ˚C isotherm greater than 6 km, which exceeds today's maximum economical drilling depth for electric power generation from hot rocks and/or heated formation waters (Tester et al., 2005).

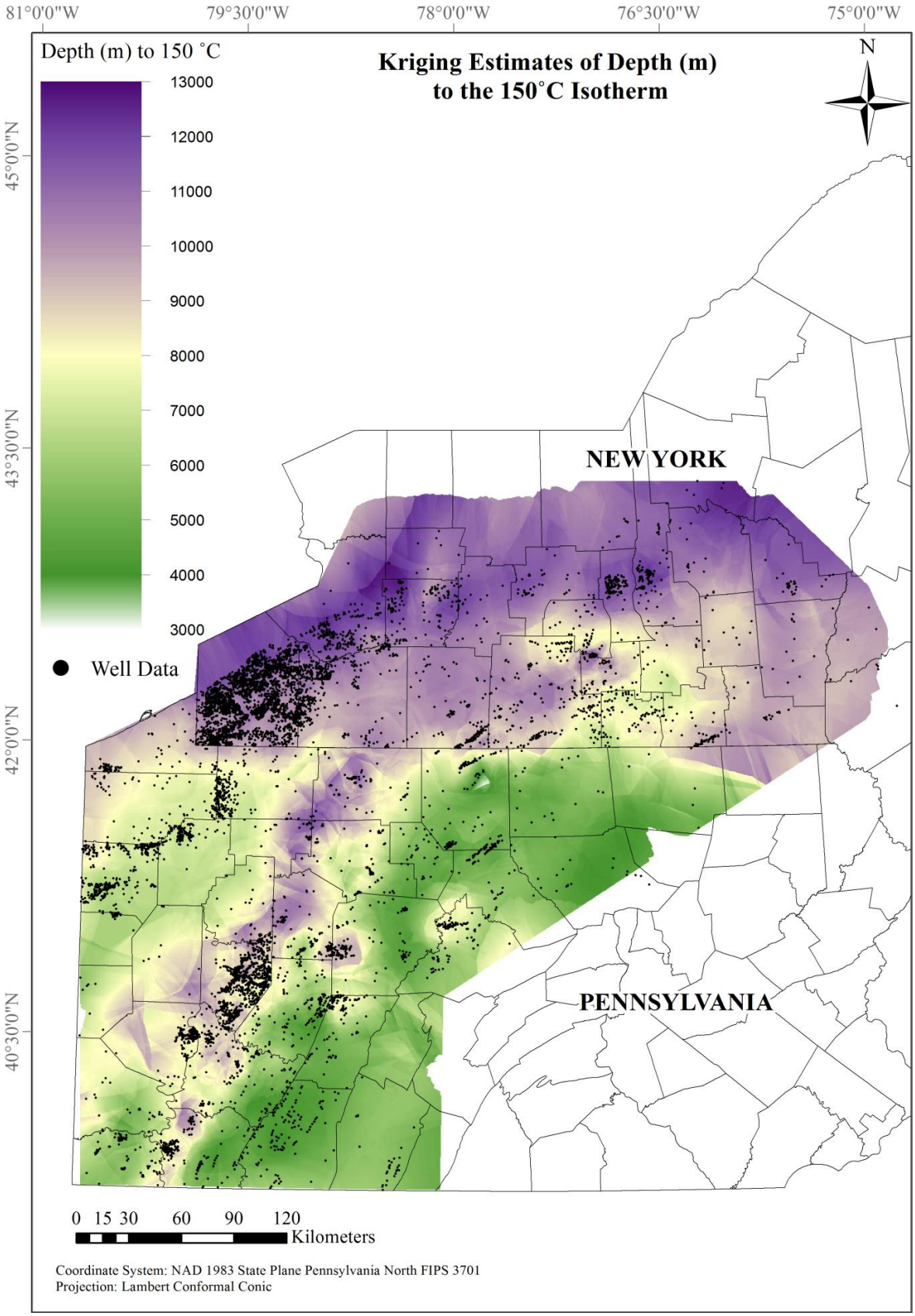


Figure 6.17: Kriging estimates of depth (m) to the 150 ˚C isotherm for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

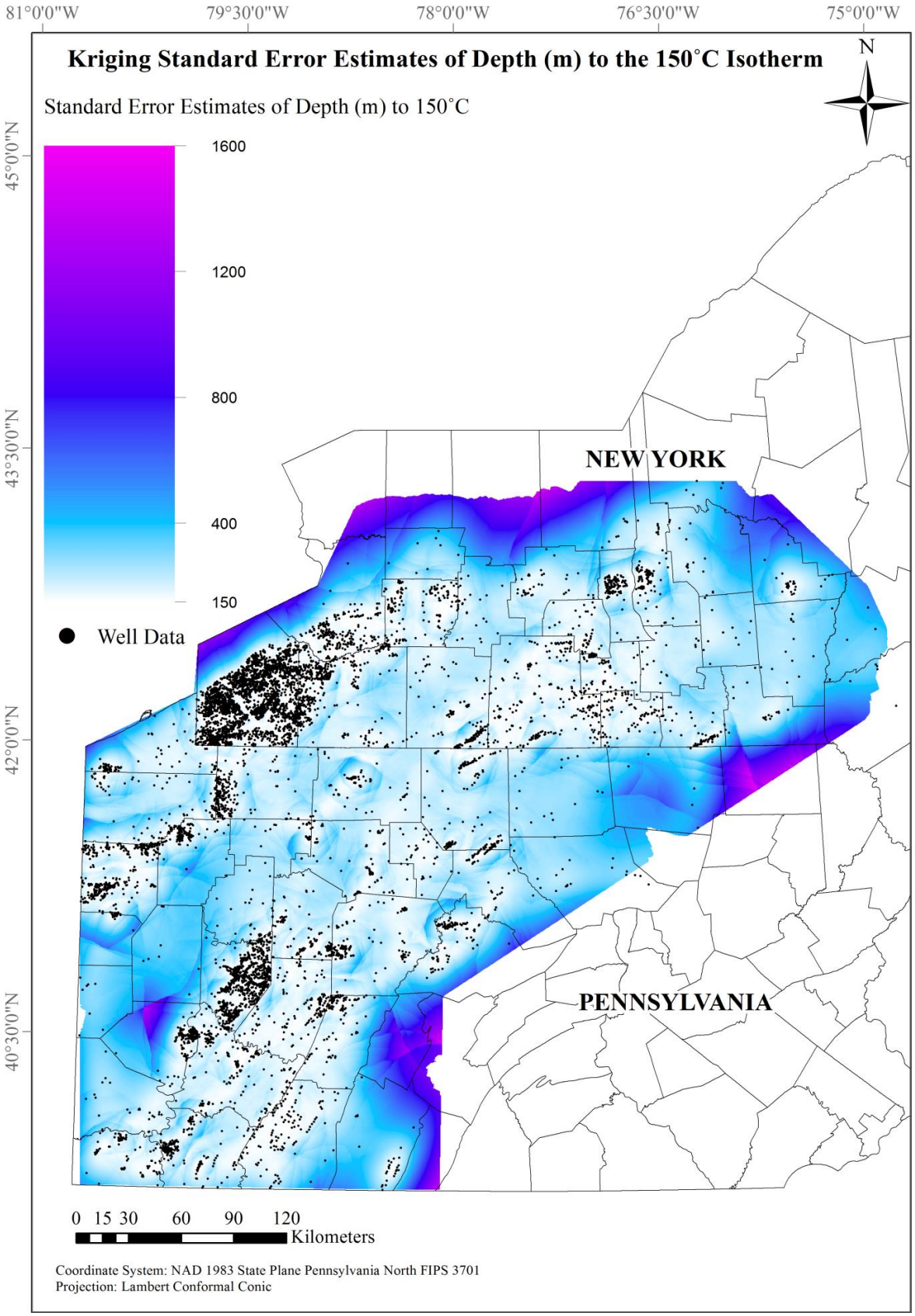


Figure 6.18: Standard error of kriging estimates of depth (m) to the 150 ˚C isotherm for New York State and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU; PA Geological Survey; NYS Museum; NYSDEC, 2011.

6.8 Cross Sections for Kriging Interpolation

This section provides a discussion on the estimated values of geothermal variables, and the statistical significance of the variations in the estimates along cross sections. The geothermal variables of interest in this section included geothermal gradient, surface heat flow, and estimated temperatures-at-depths of 3 km, 4.5 km, and 6 km.

For geothermal gradient and surface heat flow, cross sections are considered in areas where significant variations of the kriging estimates are observed, where major variations of rock types, geological formations, and structures are noticed, and where gravity and magnetic geophysical anomalies occur. Cross sections were made to analyze the estimated temperature of various known geologic formations at depth. These formations included the top of the Knox formation and the top of the Trenton/Black River formations found at depths of 3 km and 4.5 km in both New York State and Pennsylvania. The top of Precambrian basement was found at depths of 3 km, 4.5 km, and 6 km. The map in Figure 6.19 shows the location of the various cross sections and the location of the expected formations at the specified depths. Based on the kriging interpolation, which produces estimates and standard error (precision) of the estimates, 95% confidence bands were included for each cross section.

Confidence bands provide "an estimate range of values with a given probability of covering the true population value" (Hays, 1973). Precision in the estimates is defined by the width of the confidence bands. When the width of the confidence bands is narrow the estimates have greater precision (Cumming and Finch, 2005; Belia et al., 2005).

Statistical significance refers to the chance that differences in sample means are due to random fluctuations in the data (Cumming and Finch, 2005). If confidence bands do not overlap,

the difference between the two means should generally be statistically significant. This study provides 95% confidence bands computed using:

$$\bar{x} \pm t_{(n-1,\,\frac{\alpha}{2})} \times \frac{s}{\sqrt{n}} \qquad (6\text{-}17)$$

where $\bar{x}$ is the sample mean, $t_{(n-1,\,\frac{\alpha}{2})}$ is the 0.975 quantile from a *t*-distribution with *(n – 1)* degrees of freedom, *s* is the sample standard deviation, and *n* is the sample size.

Because the sample size *n* is large, $t_{(n-1,\,\frac{\alpha}{2})}$ is essentially 1.96, and equation 6-17 becomes:

$$\bar{x} \pm 1.96 \times \frac{s}{\sqrt{n}} \qquad (6\text{-}18)$$

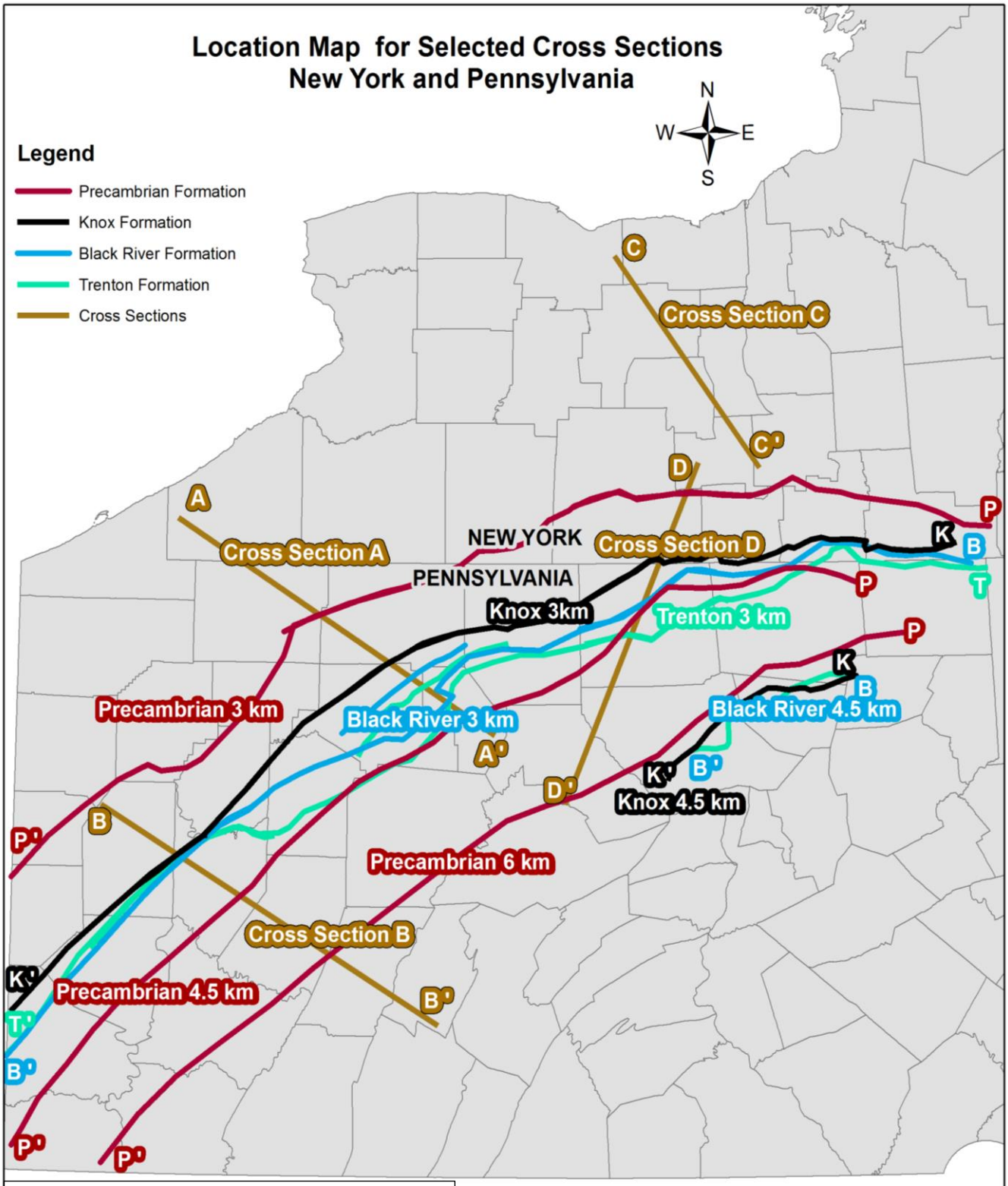


Figure 6.19: Location map of cross sections for New York and Pennsylvania. Depth at which the top layers of various formations were found shown by maroon (Precambrian), black (Knox), blue and green (Black River/Trenton) colored lines.

Source: Patchen et al., 2006.

The geothermal gradient estimates along lines A – A', B – B', C – C', and D – D', are shown in Figures 6.20 – 6.23. The cross sections include 95% confidence bands based on the kriging estimates and the standard error (precision) of kriging estimates previously discussed in section 6.7.

Geothermal gradients (˚C/km) with 95% confidence bands along line A – A' are shown in Figure 6.20. From the start of the cross section to a distance of 65 km, geothermal gradients are relatively constant around a value of 24 ˚C/km. A strong drop in geothermal gradients occurs from a distance of 65 – 90 km. A low gradient of 14 ˚C/km is recorded at a distance of 85 km. The South Branch Fault and a low magnetic anomaly intersect the area of low gradients. The drop in values is statistically significant because the confidence bands at a distance of 65 – 90 km do not overlap the confidence bands from a distance of 0 – 65 km. Geothermal gradients increase after a distance of 90 km. This area is intersected by the Upper Cambrian growth fault and high magnetic and gravity anomalies. From a distance of 85 – 105 km, gradient increases from 14 - 19 ˚C/km. The increase in geothermal gradients is statistically significant because the confidence bands from a distance of 95 -105 km do not overlap the confidence bands from a distance of 85 – 95 km. Gradients decrease after a distance of 105 km, followed by an increase after a distance of 120 km. The increase in gradients after a distance of 120 km is statistically significant. A gradient of 28 ˚C/km is recorded at a distance of 142 km. The New York – Alabama Lineament intersect the area of high gradients at a distance of 153 km.

Geothermal gradients (˚C/km) with 95% confidence bands along line B – B' are shown in Figure 6.21. From the start of the cross section to a distance of 64 km, geothermal gradients drop by 7 ˚C/km. A low geothermal gradient of 19 ˚C/km occurs at a distance of 64 km. The area where low geothermal gradients begin to drop coincides with the intersection of the Upper

Cambrian growth fault and high magnetic anomaly. Geothermal gradients increase from a distance of 64 - 112 km. A high gradient of 30 ˚C/km is recorded at a distance of 112 km. The increase in gradients coincides with the intersection of the Ordovician growth fault at a distance of 85 km. In addition, this increase is statistically significant. After a distance of 112 km, geothermal gradients decrease. A low gradient of 23 ˚C/km is recorded at a distance of 161 km. This decrease in gradients is not statistically significant.

Geothermal gradients (˚C/km) with 95% confidence bands along line C – C' are shown in Figure 6.22. From the start of the cross section to a distance of 60 km, geothermal gradients fluctuate between 20 - 23 ˚C/km. After a distance of 60 km, estimated gradients gradually increase and reach a value of 29 ˚C/km at a distance of 77 km. The increase in gradients after a distance of 65 km is statistically significant. After a distance of 84 km, gradients gradually decrease. A low gradient of 25 ˚C/km is recorded at a distance of 100 km.

Geothermal gradients (˚C/km) with 95% confidence bands along line D – D' are shown in Figure 6.23. From the start of the cross section to a distance of 105 km, geothermal gradients gradually increase by 3 ˚C/km. The increase in gradients is not statistically significant. After a distance of 105 km, gradients gradually decrease to a low of 21 ˚C/km at a distance of 150 km. The drop in geothermal gradients appears statistically significant.

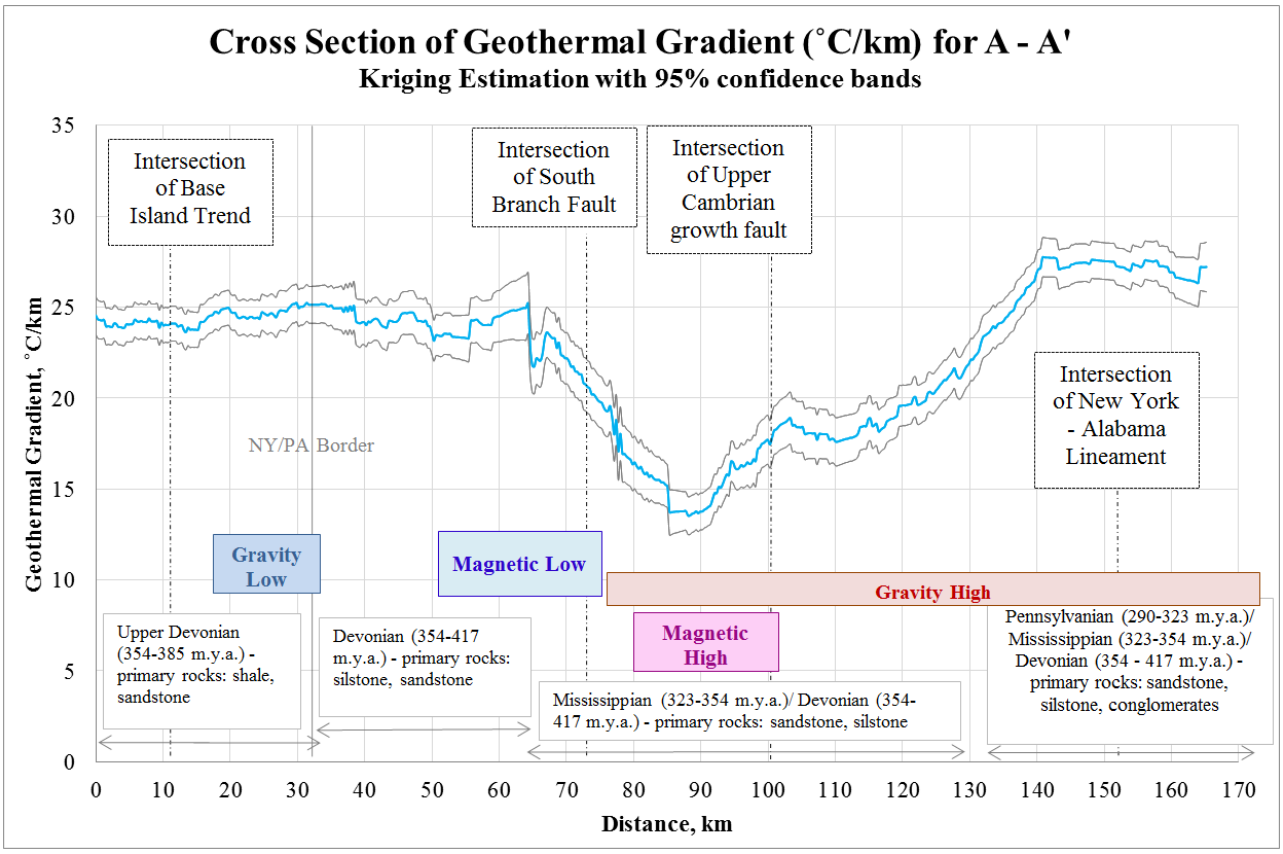


Figure 6.20: Cross sectional view of geothermal gradients for line A – A' with 95% confidence bands.

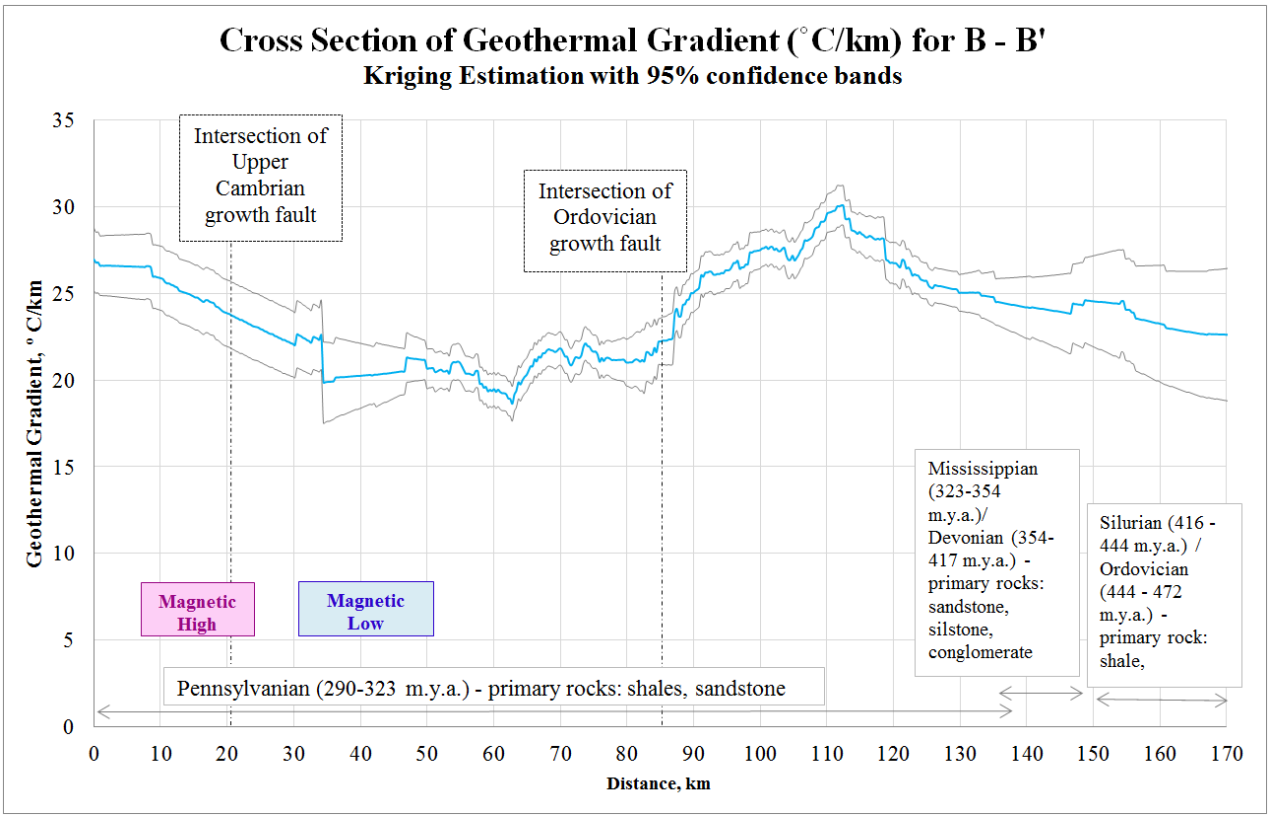


Figure 6.21: Cross sectional view of geothermal gradients for line B – B' with 95% confidence bands.

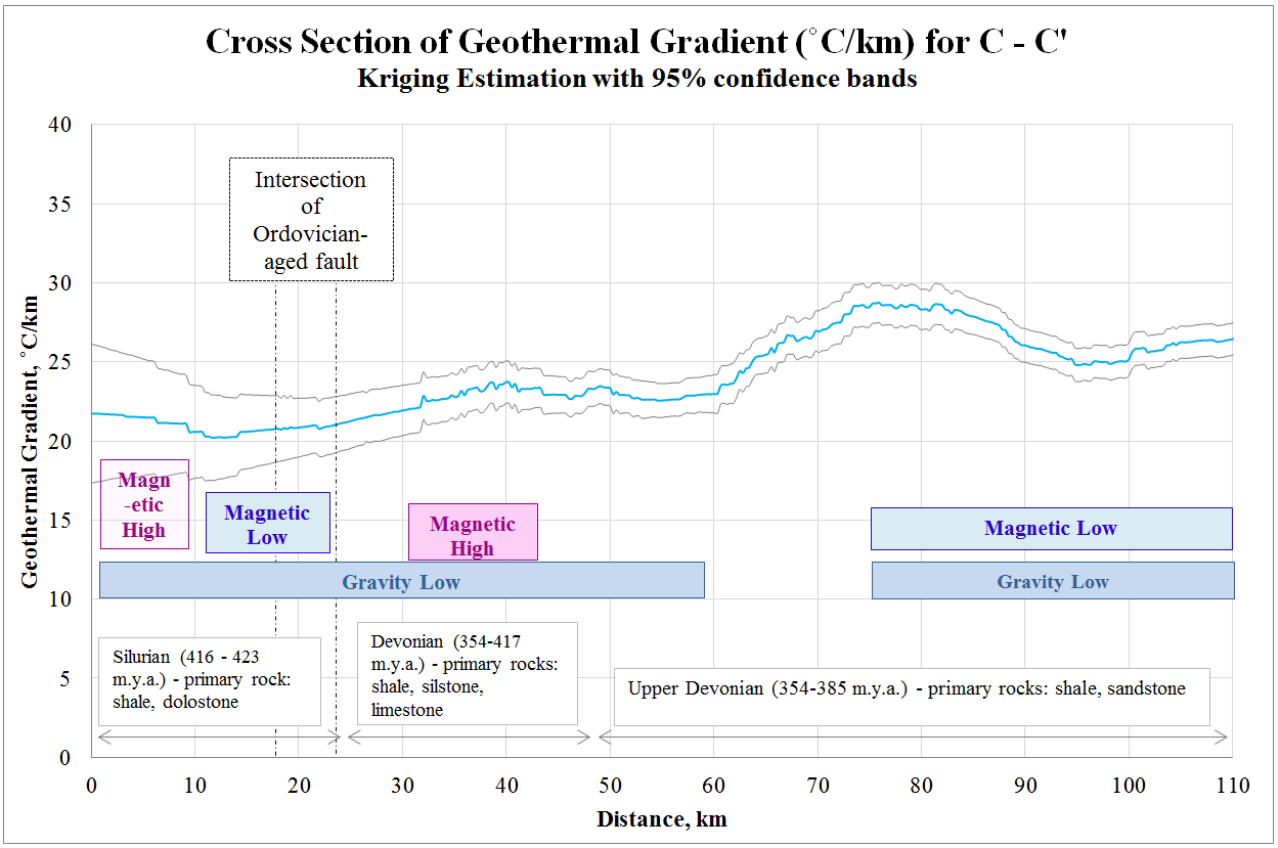


Figure 6.22: Cross sectional view of geothermal gradients for line C – C' with 95% confidence bands.

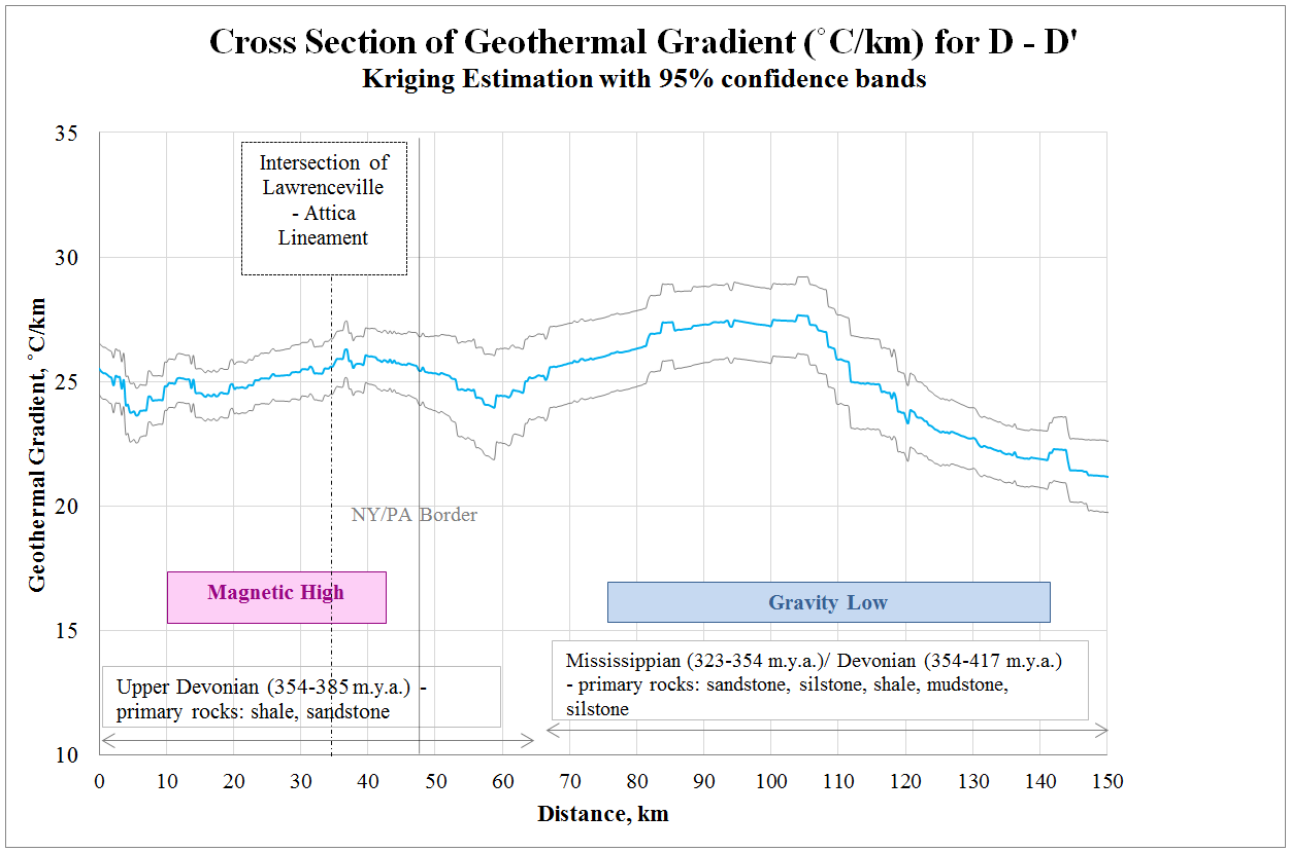


Figure 6.23: Cross sectional view of geothermal gradients for line D – D' with 95% confidence bands.

Surface heat flow estimates along lines A – A', B – B', C – C', and D – D' are shown in Figures 6.24 – 6.27. The cross sections include 95% confidence bands based on the kriging estimates and the standard error (precision) of the kriging estimates shown in section 6.7.

Surface heat flow values (mW/m^2) with 95% confidence bands along line A – A' are shown in Figure 6.24. From the start of the cross section to a distance of 65 km, surface heat flow values are constant around a value of 55 mW/m^2. From a distance of 65 – 90 km, a strong drop in heat flow occurs. A low heat flow of 37 mW/m^2 is recorded at a distance of 90 km. The drop in values from a distance of 65 – 90 km is statistically significant. The drop in heat flow values occurs during the intersection of the South Branch Fault. This area is intersected by high magnetic and high gravity anomalies. From a distance of 90 – 160 km, heat flow values gradually increase from 37 – 71 mW/m^2. This increase is statistically significant.

Surface heat flow values (mW/m^2) with 95% confidence bands along line B – B' are shown in Figure 6.25. From the start of the cross section to a distance of 64 km, heat flow values drop by 20 mW/m^2. A low heat flow of 45 mW/m^2 is recorded at a distance of 64 km. Heat flow values sharply increase from a distance of 85 - 113 km. A high heat flow of 79 mW/m^2 is recorded at a distance of 113 km. The increase in heat flow values coincides with the intersection of the Ordovician growth fault at a distance of 85 km. This increase appears to be of statistical significance. After a distance of 112 km, heat flow values gradually decrease. A low heat flow of 60 mW/m^2 is recorded at a distance of 161 km. This decrease in heat flow does not appear statistically significant.

Surface heat flow values along line C – C' is shown in Figure 6.26. From the start of the cross section to a distance of 60 km, heat flow values fluctuate between 45 – 49 mW/m^2. After a

distance of 60 km, estimated heat flow values gradually increase and reach a value of 58 mW/m^2 at a distance of 79 km. The increase in heat flow values from a distance of 70 – 90 km is statistically significant. After a distance of 84 km estimated heat flow values gradually decrease. Heat flow values decrease to 52 mW/m^2 at a distance of 100 km. The decrease in heat flow values is not statistically significant.

Surface heat flow values along line D – D' is shown in Figure 6.27. From the start of the cross section to a distance of 40 km, surface heat flow fluctuates from 47 – 53 mW/m^2. After a distance of 40 km, surface heat flow increases from 53 – 70 mW/m^2. The high heat flow of 70 mW/m^2 is recorded at a distance of 105 km. The increase in heat flow values from a distance of 40 – 105 km is statistically significant. After a distance of 105 km, surface heat flow gradually decreases. A low heat flow of 57 mW/m^2 is recorded at a distance of 150 km. The drop in surface heat flow values after a distance of 105 km is not statistically significant.

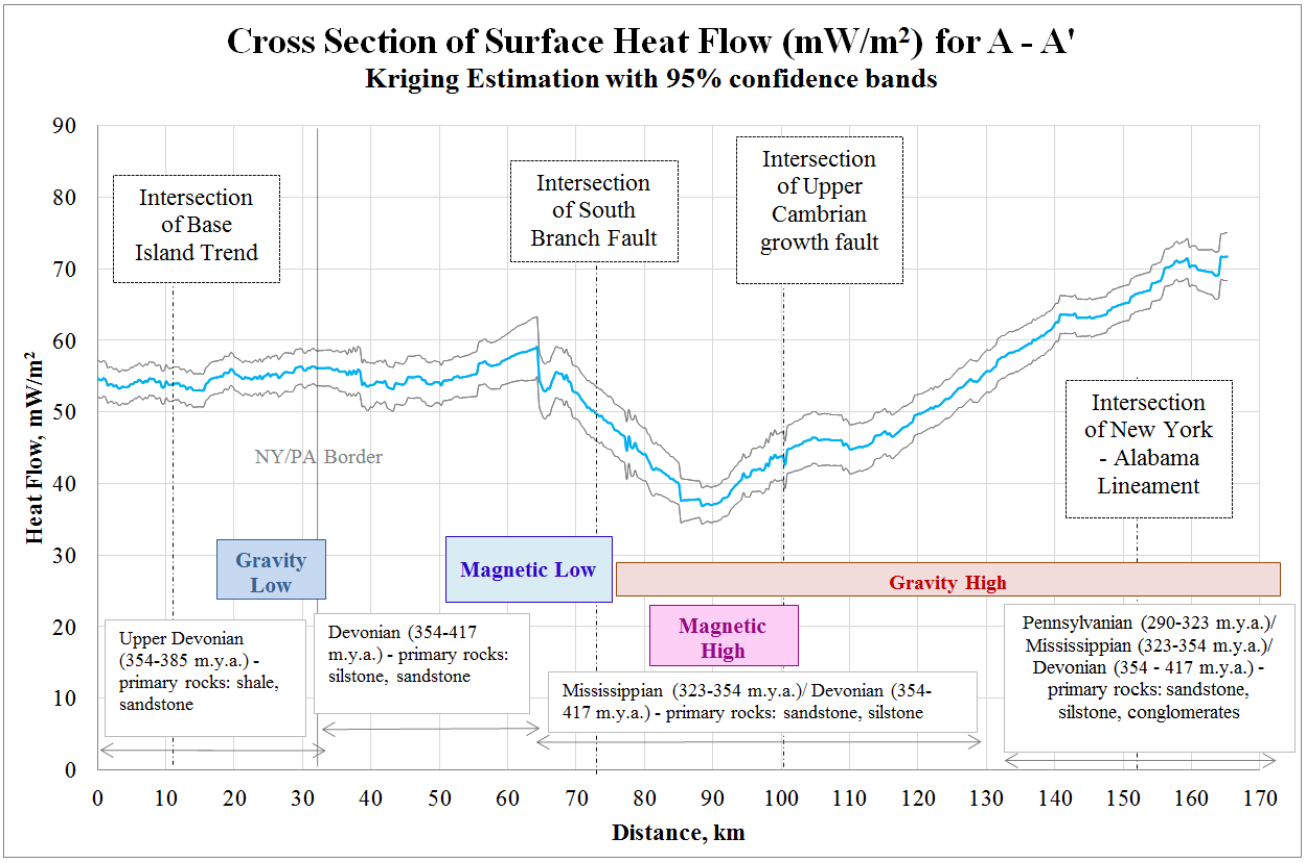


Figure 6.24: Cross sectional view of surface heat flow values for line A – A' with 95% confidence bands.

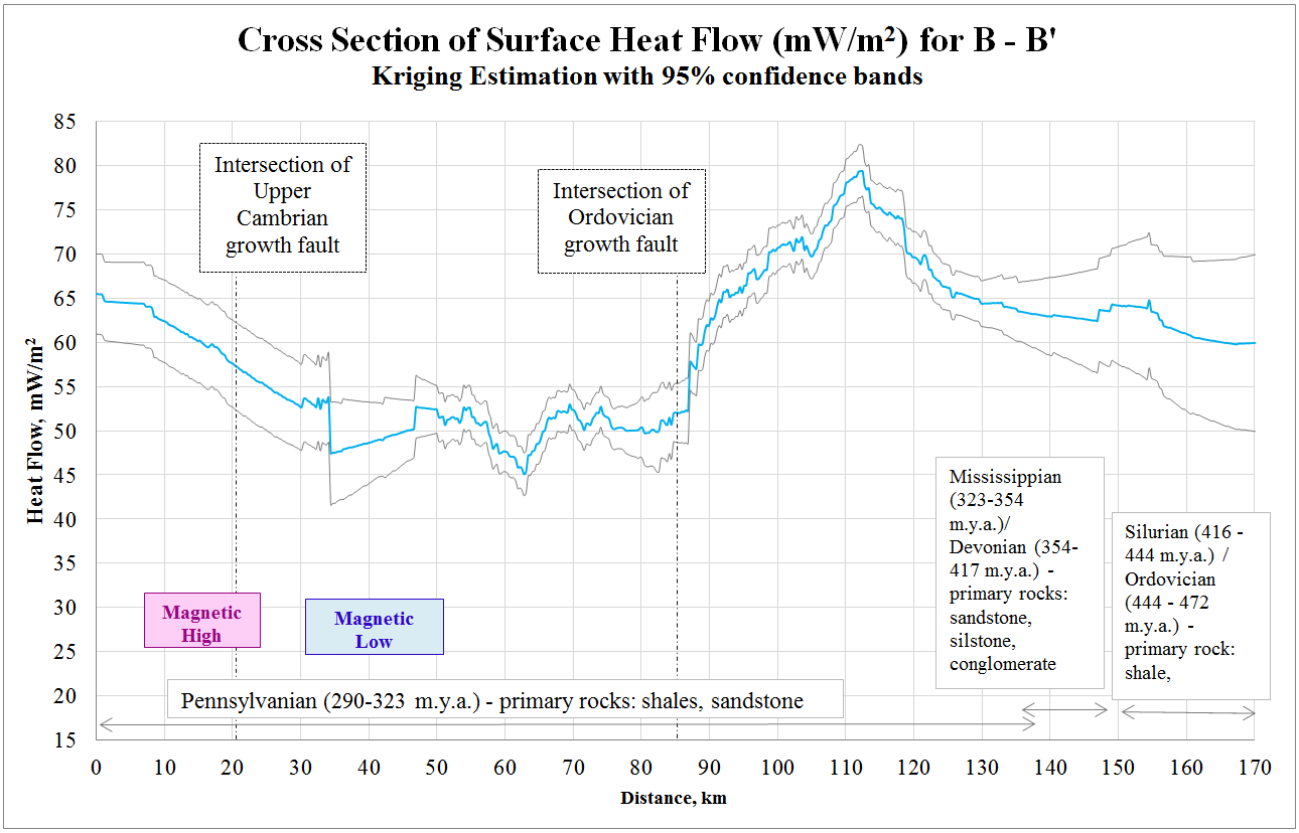


Figure 6.25: Cross sectional view of surface heat flow values for line B – B' with 95% confidence bands.

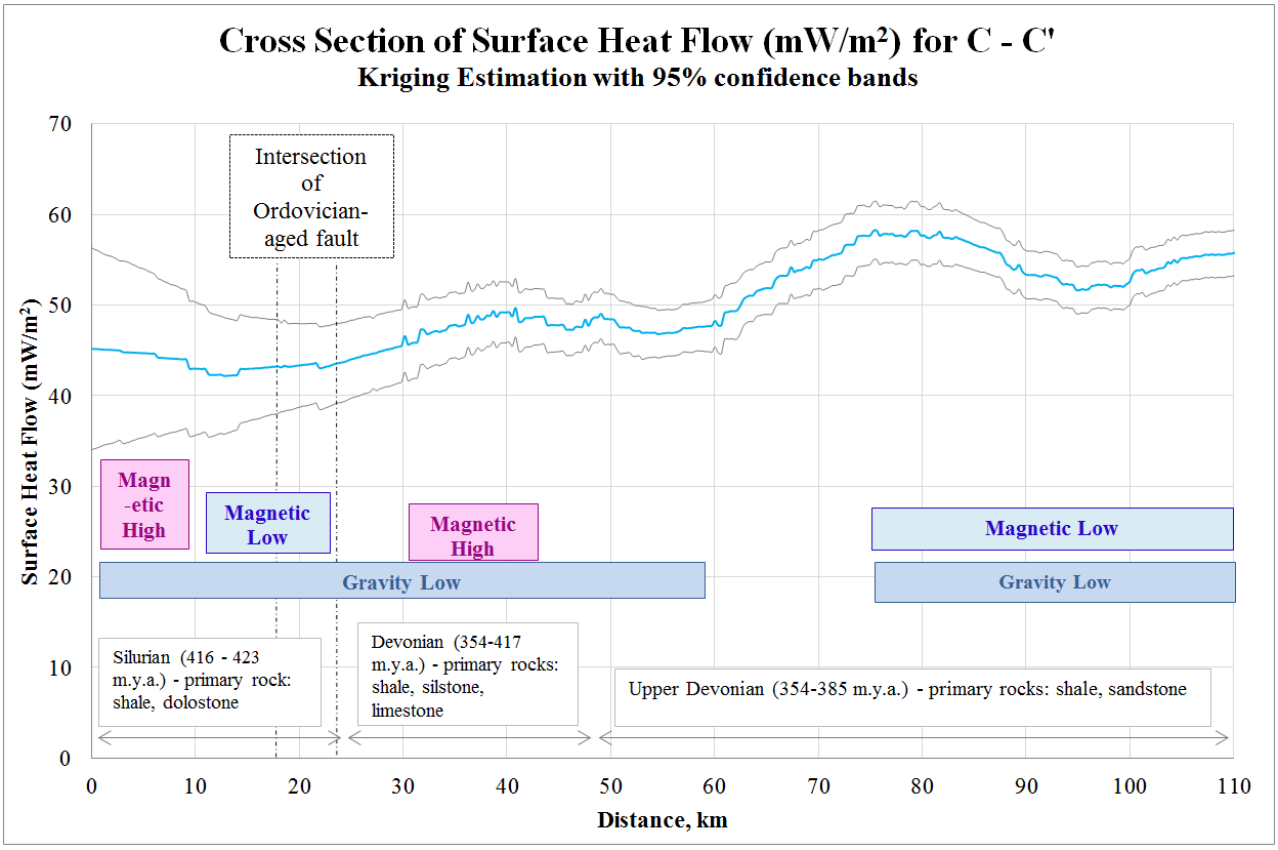


Figure 6.26: Cross sectional view of surface heat flow values for line C – C' with 95% confidence bands.

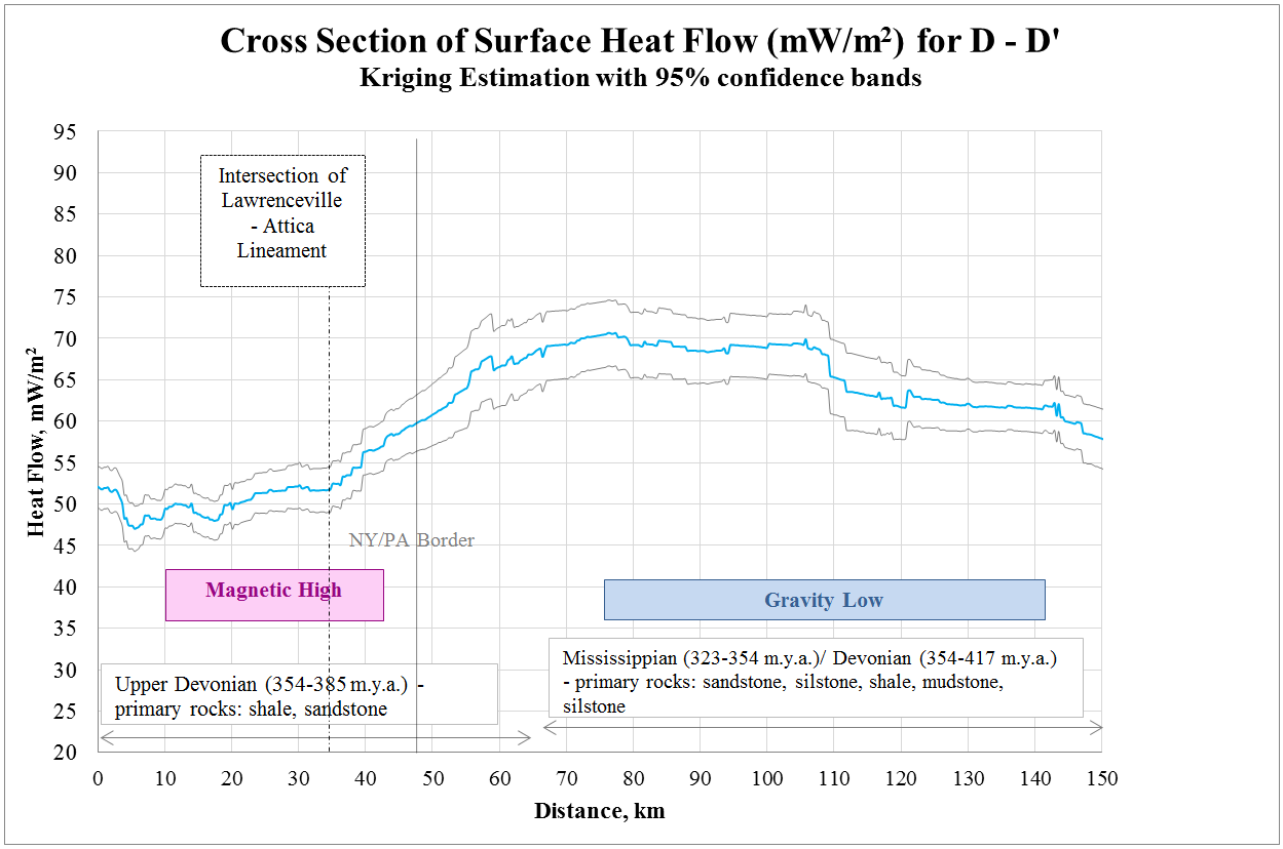


Figure 6.27: Cross sectional view of surface heat flow values for line D – D' with 95% confidence bands.

The estimated temperatures-at-depth of 3 km along the top of the Knox formation are shown in Figure 6.28. The cross section starts in south central New York and ends in northwestern Pennsylvania, as shown in Figure 6.19. From the start of the cross section to a distance of 180 km, the estimated temperatures-at-depth of 3 km along the top of the Knox formation increase from 68 – 93 ˚C. The peak in temperatures from a distance of 130 – 170 km is statistically significant. After a distance of 170 km, temperatures sharply decrease. A low temperature of 67 ˚C is recorded at a distance of 295 km. The decrease in estimated temperatures from a distance of 170 – 295 km is statistically significant. From a distance of 295 - 365 km, temperatures fluctuate between a low of 67 ˚C and a high of 73 ˚C. After a distance of 365 km, temperatures increase. Estimated temperatures increase to 81 ˚C at a distance of 470 km. This increase is not statistically significant, and is questionable because the location of this spike is at the edge of the map.

A hypothesis for the peak in temperatures from the start of the cross section to a distance of 170 km is the possibility of hydrothermal dolomites in the Knox group forming in areas around the Rome trough in northeastern Pennsylvania. The hydrothermal dolomites have possible basement origin since levels of radiogenic strontium have been found in dolomites samples. Other explanations for these hydrothermal dolomites include possible upper mantle fluid intrusion, plutonic emplacement, or anomalous “thermal pulse” from the mantle (Patchen et al., 2006).

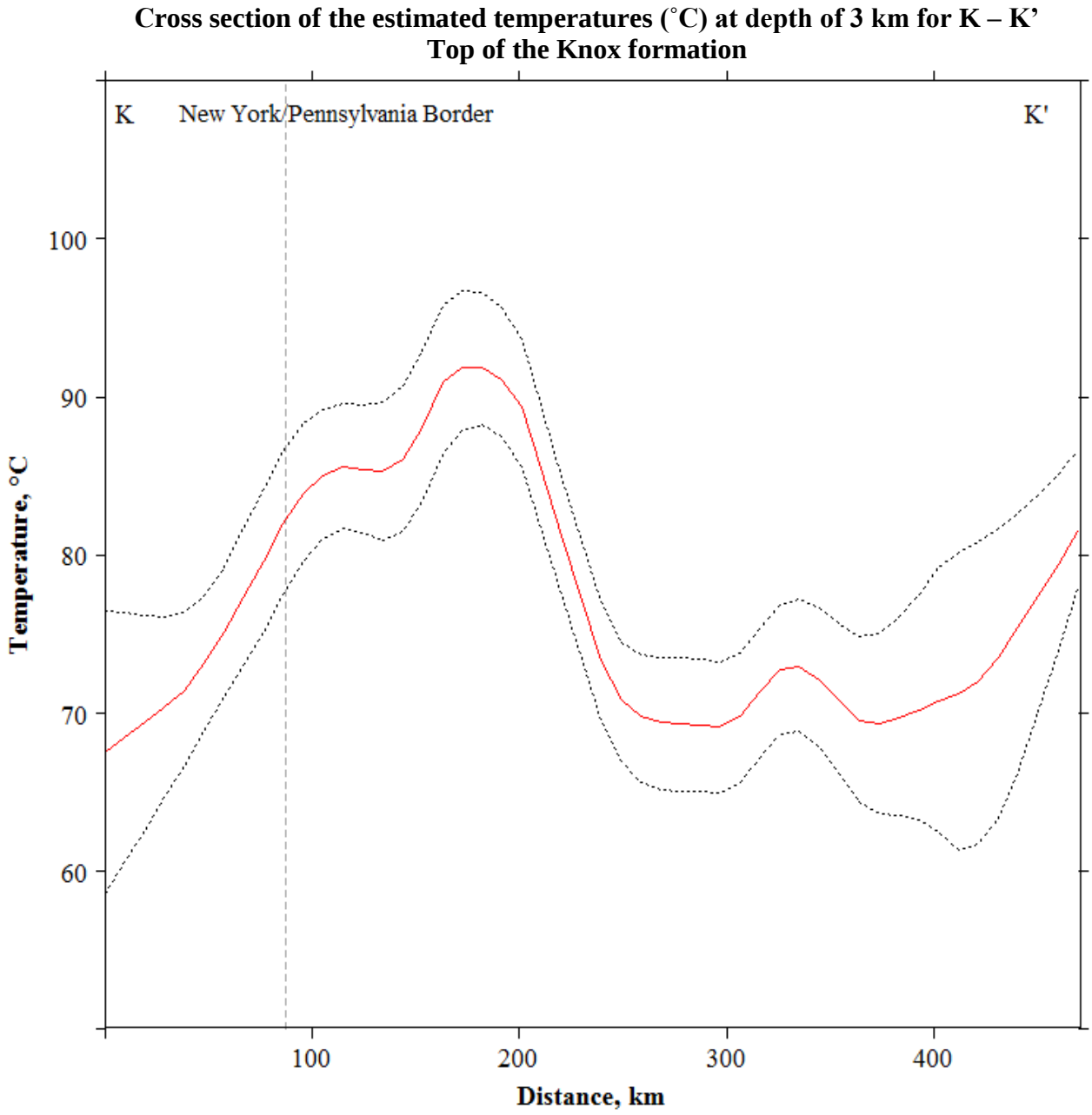


Figure 6.28: Cross section of the estimated temperatures (˚C) at depth of 3 km with 95% confidence bands for the top of the Knox formation.

The estimated temperatures-at-depth of 3 km along the top of the Black River/Trenton formation are shown in Figure 6.29. The temperature profile at depth of 3 km along the top of the Black River/Trenton formation shows a similar pattern to that along the top of the Knox formation. These formations are found at a relatively close distance to each other. From the start of the cross section to a distance of 150 km, the estimated temperatures of the Black River/Trenton formation at depth of 3 km increase from 68 – 90 ˚C. The increase in temperatures at distance of 150 km is statistically significant. From a distance of 150 – 230 km estimates temperatures remain constant around a temperature of 90 ˚C. Estimated temperatures sharply decrease after a distance of 230 km. A low temperature of 67 ˚C is recorded at distance of 340 km. The thermal depression from a distance of 230 – 340 km is statistically significant. After a distance of 340 km, estimated temperatures increase. Temperatures increase to 81 ˚C at distance of 480 km. This increase is not statistically significant, and is questionable because the location of this spike is at the edge of the map.

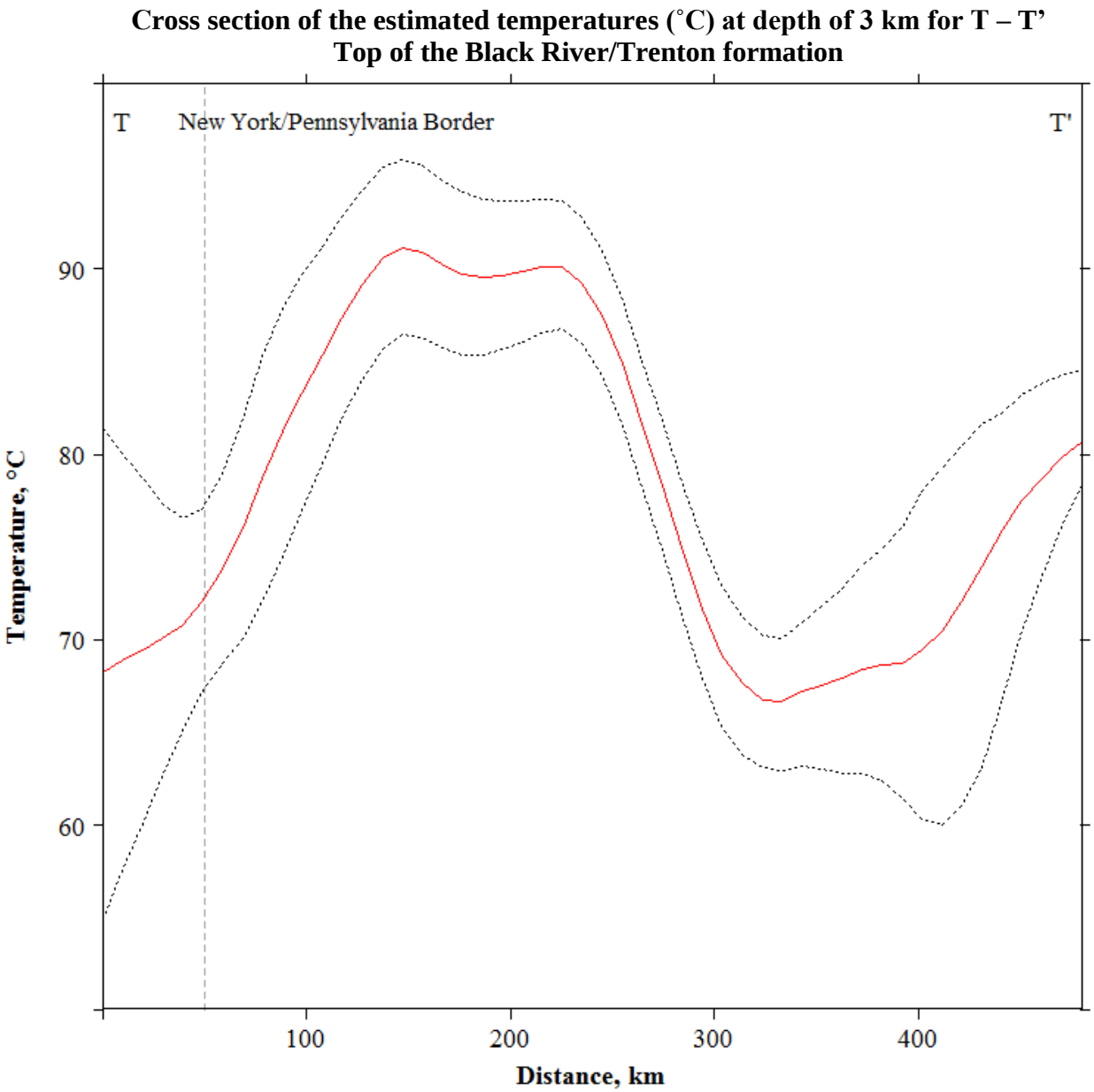


Figure 6.29: Cross section of the estimated temperatures (˚C) at depth of 3 km with 95% confidence bands for the top of the Black River/Trenton formation.

The estimated temperatures-at-depth of 3 km along the top of the Precambrian formation are shown in Figure 6.30. From the start of the cross section to a distance of 80 km, estimated temperatures increase from 68 – 85 ˚C. This increase in temperatures appears statistically significant. Temperatures sharply decrease after a distance of 80 km. From a distance of 140 – 270 km, temperatures fluctuate between a low of 69 ˚C and a high of 75 ˚C. After a distance of 270 km, temperatures sharply increase. A high temperature of 91 ˚C is recorded at a distance of 460 km. There is statistical significance in the variations of the estimates from a distance of 310 – 460 km. However, the increase in temperatures is questionable because the location of this spike is at the edge of the map

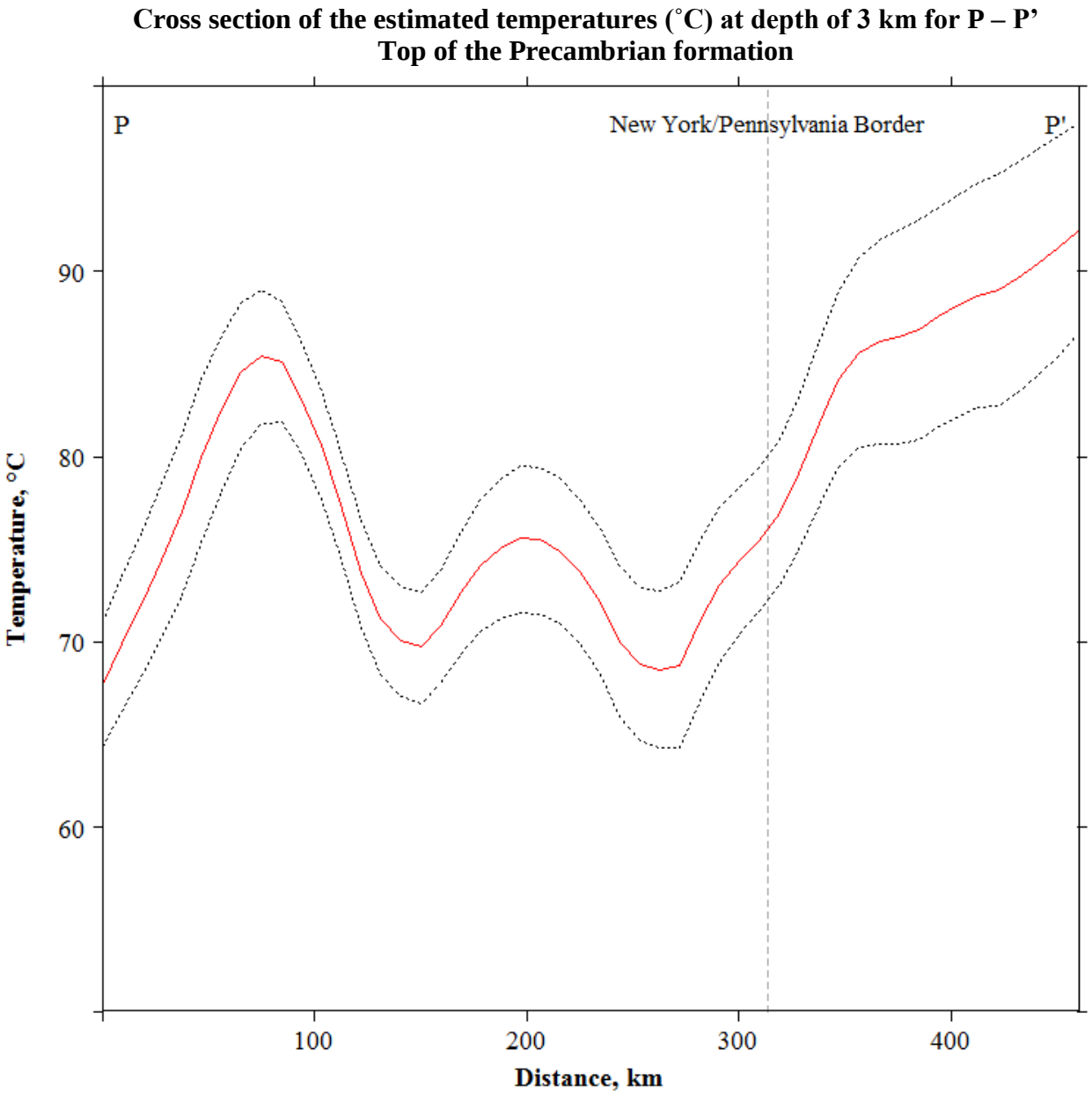


Figure 6.30: Cross section of the estimated temperatures (˚C) at depth of 3 km with 95% confidence bands for the top of the Precambrian formation.

The estimated temperatures-at-depth of 4.5 km along the top of the Precambrian formation are shown in Figure 6.31. Temperatures increase from the start of the cross section to a distance of 180 km. A high temperature of 138 ˚C occurs at a distance of 180 km. This high temperature area is statistically significant. After a distance of 180 km, temperatures sharply decrease. A low temperature region is recorded from a distance of 180 – 350 km. Specifically, a low estimated temperature of 95˚C occurs at a distance of 350 km. The decrease in temperatures from a distance of 180 – 350 km is statistically significant. After a distance of 350 km, estimated temperatures sharply increase. A high estimated temperature of 122 ˚C is recorded at a distance of 400 km. The increase in temperatures at distance of 400 km appears statistically significant, but is questionable because the location of this spike is at the edge of the map.

The thermal depression from a distance of 180 - 350 km occurs in several counties of north central and southwest Pennsylvania. This region has previously been noted as an area of low heat production from the crust and/or from redistribution of the heat by groundwater flow from cold recharge by the Allegheny Mountains (Eckstein, 1982; Blackwell et al., 1991).

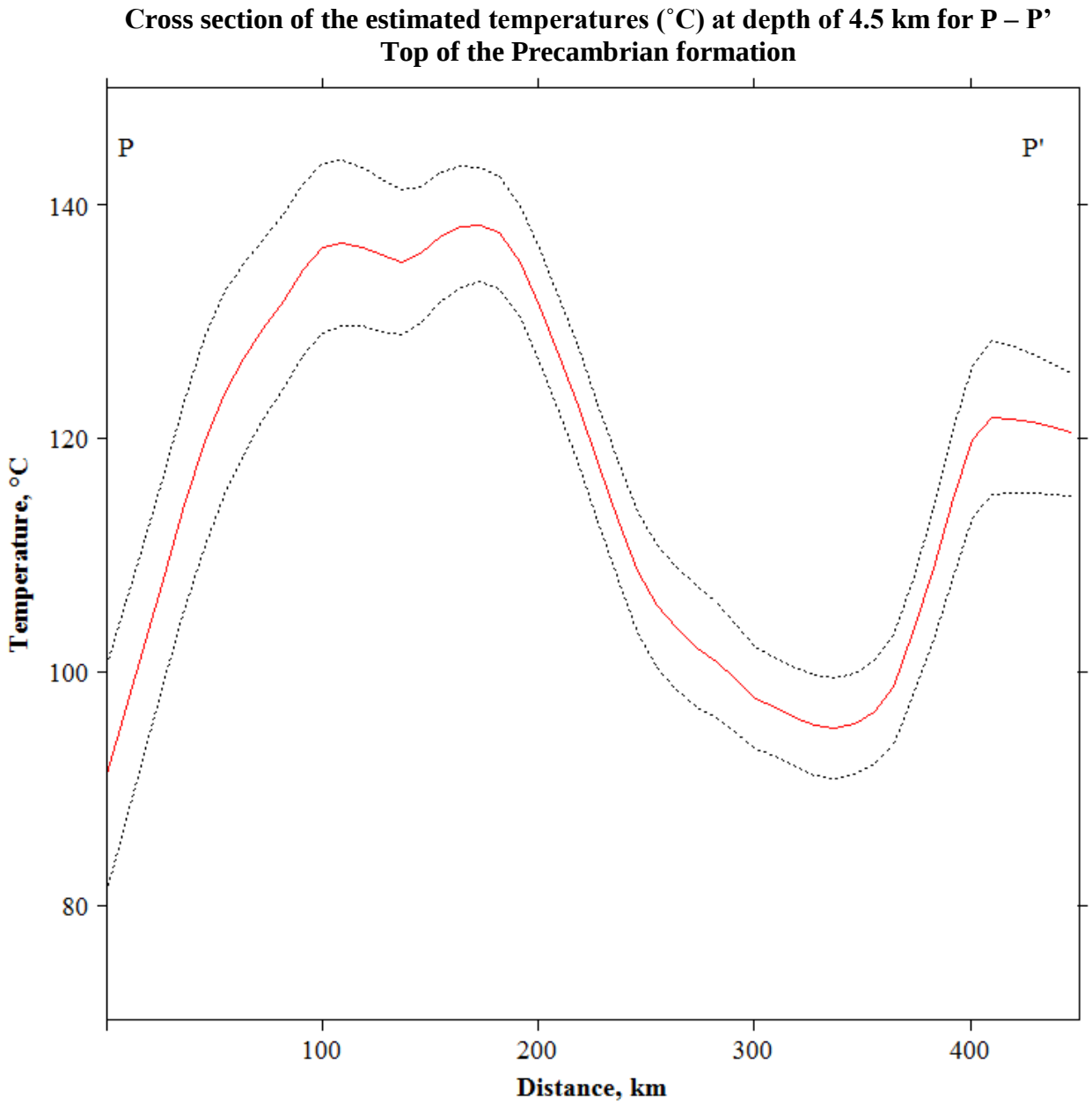


Figure 6.31: Cross section of the estimated temperatures (˚C) at depth of 4.5 km with 95% confidence bands for the top of the Precambrian formation.

The estimated temperatures-at-depth of 6 km along the top of the Precambrian formation are shown in Figure 6.32. Temperatures increase from the start of the cross section to a distance of 80 km. This increase in temperatures is statistically significant. A high estimated temperature of 210 ˚C is recorded at a distance of 80 km. Estimated temperatures sharply decrease after a distance of 80 km. At a distance of 150 km, estimated temperatures are as low as 138 ˚C. This decrease in temperatures is statistically significant from a distance of 80 – 150 km. Estimated temperatures fluctuate between 138 - 170 ˚C from a distance of 150 – 280 km. There is no statistical significance from a distance of 150 – 280 km. After a distance of 280 km, estimated temperatures sharply decrease. A low temperature of 120 ˚C is recorded at a distance of 360 km. The drop in estimated temperatures from a distance of 320 – 360 km is statistically significant. After a distance of 360 km, estimated temperatures gradually increase. The estimates at this location are questionable because the location of this increase is at the edge of the map.

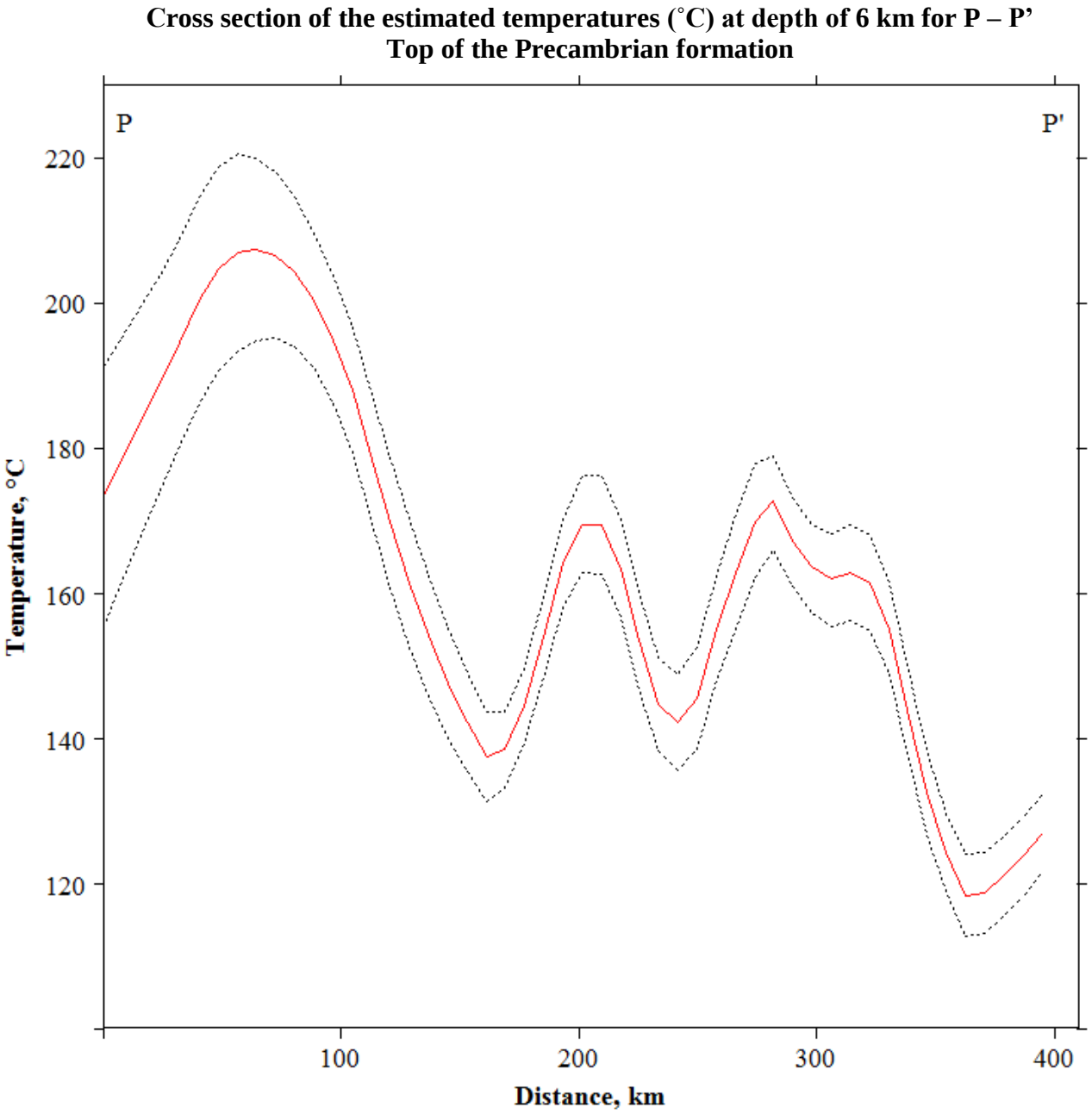


Figure 6.32: Cross section of the estimated temperatures (˚C) at depth of 6 km with 95% confidence bands for the top of the Precambrian formation.

6.9 Conclusions

This chapter described interpolation methods that can be used in geothermal resource assessment, including minimum curvature, natural neighbor, and kriging geostatistical interpolator. In this chapter, the kriging geostatistical interpolator was employed because it produces reliable maps with estimates of their precision. Kriging was used to provide estimates of geothermal resources for the Appalachian Basin of New York and Pennsylvania and estimates of the uncertainty in the assessment.

Based on our analysis, the average geothermal gradient and surface heat flow for the Appalachian Basin of New York and Pennsylvania is 22.9 ˚C/km and 51.6 mW/m^2, respectively. For gradients, the precision in the estimation of any point (standard errors) within the interpolated region was between 0.5 – 1.0 ˚C/km for areas with high data density. Areas with modest data density display precision in the estimates for gradients between 1 – 2 ˚C/km. For heat flow, the precision in the estimates in areas of high data density was between 1.2 – 3.0 mW/m^2. Areas with modest data density display precision in the estimates for heat flow between 3.0 – 5.0 mW/m^2.

Modest gradients, greater than 25 ˚C/km and with a precision within 1.0 ˚C/km, are recorded in central and southwestern New York, in the eastern border of the Appalachian Basin in Pennsylvania and in western Pennsylvania. Modest heat flow values, greater than 55 mW/m^2 and with a precision within 2.0 mW/m^2, are also recorded in central and southwestern New York, and in the eastern border of the Appalachian Basin in Pennsylvania.

From our analysis, the average estimated temperature (˚C) at depth of 3 km for the Appalachian Basin of New York and Pennsylvania is 71.3 ˚C. The precision in the estimation of

any point (standard errors) within the interpolated region was between 1.4 – 3.0 ˚C for areas with high data density. Areas with modest data density display precision in the estimates between 3 – 5 ˚C.

Central New York reports estimated temperatures-at-depth of 3 km that exceed 80 ˚C with a precision in the estimates within 2 ˚C. Areas that achieve temperatures greater than 80 ˚C are favorable for direct thermal use for district heating systems and/or combined heat and power. In north central Pennsylvania, Potter County exceeds temperatures of 100 ˚C with a precision within 2 ˚C. Several north central and south central counties in Pennsylvania exceed temperatures of 90 ˚C with a precision within 2 ˚C.

From our analysis, the average estimated temperature (˚C) at depth of 4.5 km for the Appalachian Basin of New York and Pennsylvania is 100 ˚C. The precision in the estimation of any point within the interpolated region was between 2 – 6 ˚C for areas with high data density. Areas with modest data density display precision in the estimates between 6 – 10 ˚C.

Several counties in central and southwestern New York report estimated temperatures-at-depth of 4.5 km that exceed 100 ˚C with a precision in the estimates within 4 ˚C. North central and south central Pennsylvania counties report estimated temperatures that exceed 140 ˚C with a precision within 4 ˚C.

From our analysis, the average estimated temperature (˚C) at depth of 6 km for the Appalachian Basin of New York and Pennsylvania is 125 ˚C. The precision in the estimation of any point within the interpolated region was between 2.5 – 7.0 ˚C for areas with high data density. Areas with modest data density display precision in the estimates between 7 – 12 ˚C.

Central New York reports estimated temperatures-at-depth of 6 km that exceed 130 ˚C with a precision in the estimates within 4 ˚C. In north central Pennsylvania, Potter County exceeds temperatures of 200 ˚C with a precision within 5 ˚C. Several north central and south central counties in Pennsylvania exceed temperatures of 180 ˚C with a precision within 4 ˚C. In several counties of western Pennsylvania, estimated temperatures at depth of 6 km exceed 150 ˚C with a precision in the estimates within 6 ˚C.

From our analysis, the average estimated depth to the 80 ˚C isotherm for the Appalachian Basin of New York and Pennsylvania is 4.1 km. The precision in the estimation of any point within the interpolated region was within 200 meters for areas with high data density. Areas with modest data density display precision in the estimates between 200 – 400 meters.

In central New York, the counties of Tompkins and Chemung reach temperatures of 80 ˚C within a depth of 3 km. The precision in the estimates in Tompkins and Chemung counties is within 200 meters. In north central and south central Pennsylvania, several counties report temperatures of 80 ˚C within a depth of 3 km. The precision in the estimates in these regions is within 200 meters. Northwestern Pennsylvania can also reach temperatures of 80 ˚C within a depth of 3 km and a precision within 200 meters.

For most counties in our study area, estimated depths to the 150 ˚C isotherm can surpass 7 km, which exceed today's maximum economical drilling depth of 6 km. However, several counties in the easternmost border of the Appalachian Basin in Pennsylvania record estimated depths of 5.5 km to the 150 ˚C isotherm with precision in the estimates within 800 meters.

Finally, the use of cross sections in our study allowed for the evaluation of the kriging estimates and the precision of the kriging estimates for various geothermal variables. The

geothermal variables of interest included geothermal gradient, surface heat flow, and estimated temperatures-at-depths of 3 km, 4.5 km, and 6 km. Based on the kriging estimates and the precision (standard error) of the estimates, 95% confidence bands were included in the cross sections. The 95% confidence bands were used to determine statistical significance in the variation of the estimates. Areas where the confidence bands did not overlap were considered to be statistically significant. In many regions of the two states, the analysis was unable to resolve differences in the estimates of geothermal gradient and other variables.

REFERENCES

AAPG. (1978). Basement Map of North America. The American Association of Petroleum Geologists, scale 1:5,000,000.

Barker, C. (1996). Thermal Modeling of Petroleum Generation: Theory and Applications. Amsterdam: Elsevier.

Beach, R.D., Jones, F.W., Majorowicz, J.A. (1987). Heat Flow and Heat Generation Estimates for the Churchill Basement of the Western Canadian Basin in Alberta, Canada. Geothermics, vol. 16, pp. 1-16.

Beardsmore, G.R. (1996). The Thermal History of the Browse Basin and its Implications for Petroleum Exploration. Ph.D. dissertation, Monash University, Victoria, Australia.

Beardsmore, G. R. and Cull, J. P. (2001). Crustal Heat Flow: A Guide to Measurement and Modelling. Cambridge University Press 2001.

Belia, S., Fidler, F., Williams, J., Cumming, G. (2005). Researchers Misunderstand Confidence Intervals and Standard Error Bars. Psychological Methods. vol. 10, no. 4, pp. 389 – 396. DOI: 10.1037/1082-989X.10.4.389

Bivand, R. S., Pebesma, E.J.,Gomez-Rubio, V.. (2008). Applied Spatial Data Analysis with R. Springer, NY. <http://www.asdar-book.org/.>

Bivand, R. S., Altman, M., Anselin, L., Assuncao, R., et al. (2011). Spdep: Spatial Dependence: Weighting Schemes, Statistics and Model. R package version 0.5-43. <http://CRAN.R-project.org/package=spdep.>

Bivand, R., Lewin-Koh, N., Pebesma, E., Archer, E. et al (2014). Maptools: Tools for Reading and Handling Spatial Objects. R package version 0.8-14. <http://CRAN.R-project.org/package=maptools.>

Bivand, R., Keitt, T., Rowlingson, B., Pebesma, E., Sumner, M., Hijmans, R., Rouault, E. (2014). Rgdal: Bindings for the Geospatial Data Abstraction Library. R package version 0.8-16. <http://cran.r-project.org/web/packages/rgdal/index.html>.

Blackwell, D. D. and Steele, J. L. (1989a). Thermal Conductivity of Sedimentary Rocks: Measurement and significance. In *Thermal History of Sedimentary Basins*, eds. N.D. Naeser and T.H. McCulloch, pp. 45-96. New York: Springer-Verlag.

Blackwell, D. D., Steele, J. L., Carter, L. S. (1991). Heat-flow Patterns of the North American Continent; A Discussion of the Geothermal Map of North America. The Geology of North America, Decade Map Volume 1, pp. 423-436.

Blackwell, D. D. and Richards, M.. (2004). Geothermal Map of North America. The American Association of Petroleum Geologists, 1 sheet, scale 1:6,500,000.

Bohling, G. (2005). Kriging. Kansas Geological Survey. < http://people.ku.edu/~gbohling/cpe940/Kriging.pdf.>

Briggs, I.C. (1974). Machine Contouring Using Minimum Curvature. Geophysics, Vol. 39, No. 1,pp. 39-48, Figs., 3, Tables. Society of Exploration Geophysicists.

Butler, H., Schmidt, C., Springmeyer, D., Livni, J. (2007). Spatial Reference: EPSG Projection 2271 – nad83/Pennsylvania north (ftus). < http://spatialreference.org/ref/epsg/2271/>

Chew, P. (2007). Voronoi Diagram/ Delaunay Triangulation. Computer Science Department, Cornell University, Ithaca, NY.

Chilès, J. P. and Delfiner, P. (1999). Geostatistics: Modeling Spatial Uncertainty. Wiley Series in Probability and Statistics. New York: John Wiley & Sons.

Chilès, J. P. and Delfiner, P. (2012). Geostatistics: Modeling Spatial Uncertainty, Second Edition. Wiley Series in Probability and Statistics. New York: John Wiley & Sons.

Cumming, G. and Finch, S. (2005). Inference by Eye: Confidence Intervals and How to Read Pictures of Data. American Psychologist. Vol. 60, No. 2, pp. 170 – 180. DOI: .1037/0003-066X.60.2.170

Dimenti, W.H., Urban, T.C., Revetta, F.A. (1972). Some Geophysical Anomalies in Eastern United States: The Nature of the Solid Earth New York (McGraw Hill), pp. 544-572.

Dressler, M.M. (2009). Art of Surface Interpolation. KUNŠTAT, Czech Republic.

Drury, M.J. (1986). Thermal Conductivity, Thermal Diffusivity, Density and Porosity of Crystalline Rocks. Earth Physics Branch open file report no. 86-5. Ottawa: Earth Physics Branch.

Eckstein, Y., Heimlich, R. A., Palmer, D.F., Shannon, Jr., S. S. (1982). Geothermal Investigations in Ohio and Pennsylvania. Los Alamos National Laboratory.

U.S. Environmental Protection Agency (EPA). (2004). Developing Spatially Interpolated Surfaces and Estimating Uncertainty. Office of Air and Radiation; Office of Air Quality Planning and Standard. EPA – 454/R-04-004. North Carolina.

ESRI, Inc. (2010). ArcMap Version 10.0, ArcInfo. Redlands, CA. Environmental Systems Research Institute.

Gallardo, J., and Blackwell, D. D. (1999).Thermal Structure of the Anadarko Basin, Oklahoma.American Association of Petroleum Geologists Bulletin, vol. 83, no. 2, pp. 333-361.

Hays, W.L. (1973). Statistics for Social Sciences. Second Edition, New York: Holt, Rinehart, and Winston.

Hengl, T. (2007). A Practical Guide to Geostatistical Mapping of Environmental Variables. JRC Scientific and Technical Reports. JRC European Comission. Institute for Environment and Sustainability.

Hodge, D. S., De Rito, R., Hifiker, K., Morgan, P., Swanberg, C. A. (1981). Investigations of Low-Temperature Geothermal Potential in New York State. Los Alamos National Laboratory. State University of New York at Buffalo. Department of Geological Sciences.

Hodge, D.S. and Fromm, K. (1984). Heat Flow and Subsurface Temperature Distribution in Central and Western New York. State University of New York at Buffalo. Department of Geological Sciences.

Hodge, D.S. (1996). Assessing Geothermal Energy Potential in Upstate New York. State University of New York at Buffalo. Department of Geological Sciences.

Hohn, M.E. (1988). Geostatistcs and Petroleum Geology. Computer Methods in the Geosciences. Copyright 1988 by Van Nostrand Reinhold. New York, New York, U.S.A.

Hohn, M.E. (1999). Geostatistcs and Petroleum Geology, Second Edition. Copyright 1999 by Klumer Academic Publishers. Dordrecht, The Netherlands.

Joyner, W.B. (1960). Heat flow in Pennsylvania and West Virginia. Geophysics, vol. 25, pp. 1225-1241.

Journel, A.G. and Huijbregts, CH. J. (1978). Mining Geostatistics. Centre de Geostatistique, Fontainebleau, France. Copyright 1978 by Academic Press, Inc. London.

Krige, D. G. (1951). A Statistical Approach to Some Basic Mine Valuation Problems on the Witwatersrand. Journal of the Chemical, Metallurgical and Mining Society, vol. 52: pp. 119-139.

Lanza, L.G., Ramirez, J.A.,Todini, E. (2001). Stochastic Rainfall Interpolation and Downscaling. Hydrology and Earth System Sciences, vol. 5, no. 2, pp. 139 – 143.

Laslett, G.M., McBratney, A.B., Pahl, P.J., Hutchinson, M.F. (1987). Comparison of Several Spatial Prediction Methods for Soil pH. Journal of Soil Sciences, vol. 38, pp. 325 – 341.

Ledoux, H. and Gold, C. (2005). An Efficient Natural Neighbour Interpolation Algorithm for Geoscience Modelling. Department of Land Surveying and Geo-Informatics. The Hong Kong Polytechnic University, Hong Kong.

Li, Q., Li, Y., Wang, J. (2002). Gridding of geophysical field data using finite element methods: 72nd Annual International Meeting, SEG, Expanded Abstracts, pp. 766-769.

Li, J. and Heap, A.D. (2008). A Review of Spatial Interpolation Methods for Environmental Scientists: Applying Geoscience to Australia's Most Important Challenges. Australian Government. Department of Resources, Energy and Tourism. Commonwealth of Australia.

Majorowicz, J.A. and Jessop, A.M. (1981). Regional Heat Flow Patterns in the Western Canadian Sedimentary Basin. Tectonophysics, vol. 74, pp. 109-238.

Matheron, G. (1962). Traité de Géostatistique appliquée. Tome II:Le Krigeage. Mémoires du Bureau de recherches géologiques et minières. No. 24, Editions du Bureau de recherches géologiques et minières. Paris.

New York State Department of Environmental Conservation (NYSDEC). (2011). Oil and Gas Searchable Database. Retrieved February 2011 from <http://www.dec.ny.gov/cfmx/extapps/GasOil/search/wells/index.cfm.>

Orlo, E. C. (1985).Correlation of Stratigraphic Units in North America: Correlation Chart Series.The American Association of Petroleum Geologists.

Patchen, D.G., Hickman, J.B., Harris, D.C., Drahovzal, J.A., Lake, P.D., Smith, L.B., Nyahay, R., Schulze, R., Riley, R.A., Baranoski, M.T., Wickstrom, L.H., Laughrey, C.D., Kistelnik, J., Harper, J.A., Avary, K.L., Bocan, J., Hohn, M.E., McDowell, R. (2006). A Geologic Play Book for Trenton-Black River Appalachian Basin Exploration. Trenton-Black River Project. DOE Award Number: DE-FC26-03NT41856.

Pebesma, E. J. (2004). Multivariate Geostatistics in S: The Gstat Package. Computers & Geosciences, vol. 30, pp. 683-691.

Pebesma, E.J. and Bivand R.S. (2005). Classes and Methods for Spatial Data in R. R news 5 (2), http://cran.r-project.org/doc/Rnews/R Development Core Team (2011). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org/

Pennsylvania, Department of Conservation and Natural Resources (PA, DCNR). (2012). Subsurface Rock Correlation Diagram: Oil and Gas Producing Regions of Pennsylvania. Bureau of Topographic and Geologic Survey. <http://www.dcnr.state.pa.us/topogeo/drc/drcdiagram.aspx>

R Development Core Team. (2011). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0. www.R-project.org.

Raznjevic, K. (1976). Handbook of Thermodynamics Tables and Charts. Washington, D.C. Hemisphere Publishing Corp.

Reiter, M.A. and Tovar, R.J.C. (1982). Estimates of Heat Flow in Northern Chihuahua, Mexico. Canadian Journal of Earth Sciences, vol. 22, pp. 1503-17.

Reiter, M.A. and Jessop, A.M. (1985). Estimates of Terrestrial Heat Flow in offshore Eastern Canada. Canadian Journal of Earth Sciences, vol. 22, pp. 1503-17.

Rossiter, D. G. (2011). A Minimal Introduction to Geostatistics with R/gstat. University of Twente, Faculty of Geo-Information Science & Earth Observation (ITC).

Rossiter, D.G. (2012). Predicting from Point Sample (Part 1). Applied Geostatistics, Exercise 4. University of Twente, Faculty of Geo-Information Science & Earth Observation (ITC).

Roy, R.F., Blackwell, D.D., Birch, F. (1968). Heat Generation of Plutonic Rocks and Continental Heat Flow Provinces. Earth and Planetary Science Letter, pp. 1-12. North-Holland Publishing Comp., Amsterdam.

Roy, R.F., Blackwell D.D., and Decker, E.R. (1972). Continental Heat Flow. The Robertson, E.C., ed. The Nature of the Solid Earth. McGraw-Hill Book Co., New York. pp. 506-543.

Roy, R.F., Beck, A.E., Touloukian, Y.S. (1981). Thermophysical Properties of Rock. In Physical Properties of Rocks and Minerals, eds. Y.S. Touloukian, W.R. Judd and R.F. Roy, pp. 409-502. New York: McGraw-Hill.

Rusu, C. and Rusu, V. (2006). Radial Basis Functions Versus Geostatistics in Spatial Interpolations. Pontificia Universidad Catolica de Valparaiso, Escuela de Ingenieria Informatica, Valparaiso, Chile. North University of Baia Mare, Faculty of Sciences, Baia Mare, Romania. IFIP International Federation for Information Processing Vol.217, pp 119-128

Sambridge, M., Braun, J., McQueen, H. (1995). Geophysical Parameterization and Interpolation of Irregular Data using Natural Neighbours. Geophysical Journal International, vol. 122, pp. 837–857.

Sarkar, D. (2008). Lattice: Multivariate Data Visualization with R. Springer, New York. ISBN: 978-0-387-75968-5

Schuenemeyer, J.H. and Drew, L.J. (2011). Statistics for Earth and Environmental Scientists. John Wiley & Sons, Inc. Hoboken, New Jersey, U.S.A.

Shope, E. N., Reber, T. J., Stutz, G. R., Aguirre, G. A., Jordan, T. E., Tester, J. W. (2012). Geothermal resource assessment: A detailed approach to low-grad resources in the states of New York and Pennsylvania. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Shope. E.N. (2012). A Detailed Approach to Low-Grade Geothermal Resources in the Appalachian Basin of New York and Pennsylvania: Heterogeneities within the Geologic Model and their effect on Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Sibson, R. (1980). A Vector Identity for the Dirichlet Tesselation. In Mathematical Proceedings of the Cambridge Philosophical Society, vol. 87, pp. 151–155.

Sibson R. (1981). A Brief Description of Natural Neighbour Interpolation. In V Barnett, editor, Interpreting Multivariate Data, pp. 21–36. Wiley, New York, USA.

SMU Geothermal Lab (2004). Thermal Gradient and Heat Flow Map for the Continental United States. Southern Methodist University. <http://smu.edu/geothermal/heatflow/ThermalGradientmap.gif>

SMU Geothermal Lab. (2008). Regional Geothermal Database of U.S. Geothermal Resources. Southern Methodist University. <http://smu.edu/geothermal/georesou/resource.htm>.

Stutz, G. R., Williams, M., Frone, Z., Reber, T. J., Blackwell, D., Jordan, T., Tester, J. W. (2012). A Well by Well Method for Estimating Surface Heat Flow to Analyze the Geothermal Energy Resource Potential of the United States. PROCEEDINGS, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, Stanford, CA, February 11 – 13, 2013.

Stutz, G. R. (2012). Development, Analysis, and Application of a Well by Well Method for Estimating Surface Heat Flow for Regional Geothermal Resource Assessment. A Master of Science Thesis presented to the Faculty of the Graduate School of Cornell University.

Taylor, A.E., Judge, A., and Allen, V. (1986). Terrestrial Heat Flow from Project Cesar, Alpha Ridge, Arctic Ocean. Journal of Geodynamics, vol. 6, pp. 137-176.

Taylor, H.M. andKarlin, S. (1998). An Introduction to Stochastic Modeling: 3rd Edition. Academic Press: An Imprint of Elsevier.

Tester, J. W., Drake, E. M., Driscoll, M. J., Golay, M. W., Peters, W. A. (2005). Sustainable Energy Choosing Among Options. Massachusetts Institute of Technology (MIT). The MIT Press, Cambridge, Massachusetts.

Texas Tech University (TTU). (2009). Lecture: What is a deterministic model? < http://courses.ttu.edu/isqs5349-westfall/images/5349/deterministic_stochastic.htm>

Touloukian, Y.S., Powell, R.W., Ho, C.Y., Klemens, P.G. (1970b). Thermal Properties of Matter, vol.2. In Thermal Conductivity, Non-Metallic Solids. New York and Washington: IFI/Plenum.

University of Tennessee, Knoxville (UTK). (2008). Chapter 30: Advanced Geospatial Methods Part I: Overview and Correlation Modeling. SADA Version 5 User's Guide. <www.tiem.utk.edu>

Urban, T.C., Diment, W.H., Nathenson, M. (1978). East Mesa Geothermal Anomaly, Imperial County, California: Significance of Temperatures in a Deep Drill Hole near Thermal Equilibrium. In Geothermal Energy: A Novel Becomes Resource. Transactions of Meeting, Hilo, Hawaii, July 25-27, 1978. Vol. 2, no. 2, ed. J. Combs, pp. 667-670. Davis, California: Geothermal Resource Council.

CHAPTER 7

LOCAL REGRESSION METHODS

7.1 Introduction

This chapter investigates the use of local regression methods with geothermal data and the treatment of outliers. In particular, locally weighted regression smoothers (*loess*) are employed to provide estimates of geothermal resources for the Appalachian Basin of New York and Pennsylvania, and to estimate the uncertainty of its assessments. Use of *loess* in this thesis for geothermal resource characterization allows assessment of its performance relative to kriging geostatistical interpolator.

Local regression methods refer to the use of regression to fit data points within a limited neighborhood around the point of interest (Rodriguez and Balan, 2008). A robust extension of local regression was proposed by Beaton and Turkey (1974), Andrews (1974), and Cleveland (1979). The idea is to locally fit regression functions iteratively by applying weighted least squares, which assigns lower weights to points farther away from the point of interest, and which have larger residual errors (robust *loess*).

Cleveland (1979) and Cleveland and Devlin (1988) proposed the use of locally weighted regression, *loess*, to smooth scatterplots and time series data based on moving averages. Cleveland and Devlin (1988) use *loess* as an exploratory graphical tool, as a way to provide additional diagnostic tools for regression analysis. *Loess* has been widely used because of its flexibility and ease of use (Cleveland, 1979; Cleveland and Devlin, 1988; Jacoby, 1997; 2000).

Another advantage of *loess* is its use of a nonparametric approach to describe regression surfaces. The use of nonparametric functional approximations is more robust to model

misspecification than parametric functions, because nonparametric functions do not have a predetermined shape and should bend to follow the trend revealed in a given dataset (Jacoby, 1997; 2000). That is, *loess* only assumes that the data locally fits a polynomial or another convenient function.

In this thesis, *loess* is tested without and with outliers based on global and local outlier detection methods developed in Chapter 5 to evaluate *loess*'s robustness against outliers. For the dataset that contains outliers, a robust version of *loess* that down-weights outliers is employed to estimate the mean response (Cleveland, 1979; Cleveland and Devlin, 1988; Loader, 1999; Jacoby, 2000). For this analysis, the robust version of *loess* is called R – *loess*.

In this analysis, *loess* and R - *loess* were employed to model geothermal gradients and the estimated temperature (˚C) at depth of 4.5 km. An assessment of the performance of *loess* and R – *loess* methods relative to kriging geostatistical interpolation is provided in Chapter 8.

7.2 Locally Weighted Regression Smoother

This section provides an introduction to the characteristics of the locally weighted regression smoother, *loess*. Specifically, the fundamental equations for the *loess* model are introduced. They describe the weight function, including the robust weight function, and the variance of the estimates of the mean. The *loess* model is:

$$y_i = \mu(\mathbf{x}_i) + \varepsilon_i \qquad (7\text{-}1)$$

where y_i is the value of y for $i = 1, 2, \ldots, n$, $\mu(\mathbf{x}_i)$ is the estimate of the mean at the point (x_{1i}, x_{2i}) representing the geographic location of the observations, ε_i is a random variable representing the error in y_i (Cleveland, 1979; Cleveland and Devlin, 1988; Loader, 1999; Jacoby, 2000).

The errors, ε_i, are assumed to have zero mean and be independent and identically distributed (IID), therefore:

$E\{\varepsilon_i\} = 0$ and $Var\{\varepsilon_i\} = \sigma^2$

The locally weighted regression approximates $\mu(\boldsymbol{x})$ using a local quadratic function $g(\boldsymbol{x}, \boldsymbol{x}_0)$ of the form:

$$g(\boldsymbol{x}, \boldsymbol{x}_0) = \beta_0 + \beta_1(x_1 - x_{1,0}) + \beta_2(x_2 - x_{2,0}) + \beta_3(x_1 - x_{1,0})(x_2 - x_{2,0}) + \beta_4(x_1 - x_{1,0})^2 + \beta_5(x_2 - x_{2,0})^2 \quad (7\text{-}2)$$

where $\mathbf{x}$ is the observation point: $\mathbf{x} = (x_1, x_2)$, and $\boldsymbol{x}_0$ is the evaluation point: $\mathbf{x}_0 = (x_{1,0}, x_{2,0})$ at which a value of $\mathbf{y}_0$ is to be computed.

By using weighted least squares, the local regression estimate, $g^*(x_{1,i}, x_{2,i})$, for an evaluation point, $\mathbf{x}_0$, is computed by finding the vector of the coefficients $\boldsymbol{\beta} = (\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5)^T$ that minimizes the locally weighted sum of squares:

$$\sum_{i=1}^{n} W(\mathbf{x}_i, \mathbf{x}_0)\,[y_i - g(\mathbf{x}_i, \mathbf{x}_0)]^2 \quad (7\text{-}3)$$

The weights of the observations, $W(\mathbf{x}_i, \mathbf{x}_0)$ are a function of the normalized distance

$$\nu = \left(\frac{\|\mathbf{x}_i - \mathbf{x}_0\|}{h}\right) \quad (7\text{-}4a)$$

where *h* is the bandwidth or smoothing window which determines the proportion of observations used in each window. The ideal amount of smoothing is that which produces a *loess* curve that is smooth, but still captures the variability of interest in the original data.

The tri-cube weight function, $W(\mathbf{x_i}, \mathbf{x_0})$, applies larger weights to observations that fall closer to an estimation point, and lower weights to observations that fall further away from an estimation point (Cleveland, 1979; Cleveland and Devlin, 1988; Loader, 1999; Jacoby, 2000).

$$W(\mathbf{x_i}, \mathbf{x_0}) = \begin{cases} (1 - |\nu|^3)^3 & |\nu| \leq 1 \\ 0 & |\nu| > 1 \end{cases} \quad \text{(7-4b)}$$

The residuals, $\hat{\varepsilon}$, describing the difference between the observed and the estimated values are:

$$\hat{\varepsilon}_i = y_i - g(\mathbf{x}_i, \mathbf{x_0}) \quad \text{(7-5)}$$

For the data set that contains outliers, robust *loess* is used; it down-weights the influence of outliers in the regression step (Cleveland, 1979; Cleveland and Devlin, 1988; Loader, 1999; Jacoby, 2000). A robust weight function for each observation, *i*, is defined by Tukey's bi-square function, $B(\hat{\varepsilon}_i)$:

$$B(\hat{\varepsilon}_i) = \begin{cases} \left(1 - \left|\frac{\hat{\varepsilon}_i}{k}\right|^2\right)^2 & \left|\frac{\hat{\varepsilon}_i}{k}\right| \leq 1 \\ 0 & \left|\frac{\hat{\varepsilon}_i}{k}\right| > 1 \end{cases} \quad \text{(7-6)}$$

where $k = 6$ Median $\{\hat{\varepsilon}_1, \ldots, \hat{\varepsilon}_n\}$.

With the use of Tukey's bi-square function, weighted least squares is applied again to estimate $g^*(x_{1,i}, x_{2,i})$, for an evaluation point, $\mathbf{x_0}$, by finding the vector of the coefficients

$\boldsymbol{\beta}^* = (\beta_0^*, \beta_1^*, \beta_2^*, \beta_3^*, \beta_4^*, \beta_5^*)^T$ that minimizes the locally weighted sum of squares employing Tukey's bi-square weights on all observations.

$$\sum_{i=1}^{n} B(\hat{\varepsilon}_i) W(\mathbf{x_i}, \mathbf{x_0}) [y_i - g(\mathbf{x}_i, \mathbf{x_0})]^2 \quad (7\text{-}7)$$

In matrix notation, the estimated vector of residuals can be computed using:

$$\hat{\mathcal{E}} = \mathbf{Y} - \hat{\mathbf{Y}} = (\mathbf{I} - \mathbf{L})\mathbf{Y} \quad (7\text{-}8)$$

where **Y** is the vector of observed values and $\hat{\mathbf{Y}}$ is the vector of estimates for each observation; such that:

$$\hat{\mathbf{Y}} = \mathbf{LY} \quad (7\text{-}9)$$

where **I** is the identity matrix and **L** is the hat matrix that maps the observations to the estimates.

It then follows that:

$$E[\hat{\mathcal{E}}^{\mathbf{T}}\hat{\mathcal{E}}] = \sigma^2 \cdot tr[(\mathbf{I} - \mathbf{L})(\mathbf{I} - \mathbf{L})] \quad (7\text{-}10)$$

which allows for the estimation of σ^2 as $\sigma^2 = \frac{\Sigma \hat{\varepsilon}_i^{\,2}}{tr\,[(I-L)(I-L)]}$

where $tr(\mathbf{A})$ denotes the trace of matrix **A**.

The estimate of the value of $y(x)$ can be written:

$$y(x) = \boldsymbol{l}(\mathbf{x})\,\mathbf{Y} \quad (7\text{-}11)$$

where $\boldsymbol{l}(\mathbf{x})$ is a row vector similar to the rows of **L** for $\mathbf{x} = x_i$.

It follows that the error in the estimation of *y* due to having just *n* observations is (Cleveland, 1979; Cleveland and Devlin, 1988; Loader, 1999):

$$\text{Var}\,[g(\mathbf{x})] = \sigma^2 \cdot \sum_{i=1}^{n} [\boldsymbol{l}(\mathbf{x})_i]^2 \qquad (7\text{-}12)$$

However, the variance of prediction for *y(x)* is given by:

$$E\{(y(\mathbf{x}) - g(\mathbf{x}, \mathbf{x_0})^2\} = E\{(y(\mathbf{x}) - \mu(\mathbf{x})) + (\mu(\mathbf{x}) - g(\mathbf{x}, \mathbf{x_0})\}$$

$$= \sigma^2 + \sigma^2 \cdot \sum_{i=1}^{n} [\boldsymbol{l}(\mathbf{x})_i]^2 \qquad (7\text{-}13)$$

where the first term describes the random difference between the observation $y(\mathbf{x})$ and its mean $\mu(\mathbf{x})$ and the second term describes the error in $g(\mathbf{x}, \mathbf{x_0})$ as an estimation of the mean $\mu(\mathbf{x})$.

Our interest is in estimating the actual mean $\mu(\mathbf{x})$ at location **x**, and not the possible reported value *y(x)* at a single well. Such single observations are subject to a number of measurement errors, so that it may not reflect accurately the regional mean value for the area.

7.3 Database for Locally Weighted Regression

The dataset used for *loess* without outliers included 7,779 data points. This dataset resulted from the removal of duplicate API numeric identifiers, the removal of the global and local outliers in Chapter 5, the removal of data in counties with less than 5 data points, and the addition of the small "noise" in data points with duplicate geographic locations. This dataset was also used for kriging geostatistical interpolation in Chapter 6.

The dataset used for R – *loess* with outliers included 7,932 data points. This dataset resulted from the removal of duplicate API numeric identifiers, the removal of data in counties

with less than 5 data points, and the addition of the small "noise" in data points with duplicate geographic locations.

7.4 Locally Weighted Regression Maps

The results of the locally weighted regression for geothermal gradients and temperatures-at-depth of 4.5 km are discussed in this section. First, a value for the smoothing parameter, *f*, must be selected. This value determines the fraction of points used in the *loess* estimation, *n*f*, where *n* is the total number of points in the dataset. The distance to the *n*f*–th furthest point is the variable bandwidth, *h*, that changes at all locations of the *loess* estimation. For the selection of *f*, several values were considered ranging from 0.005 to 0.1.

The smoothing parameter, *f*, and the fraction of points used in the *loess* and R – *loess* estimation are shown in tables 1 and 2, respectively. Smaller smoothing parameters use a smaller fraction of points per fit and are expected to produce "noisier" curves. Larger smoothing parameters use a larger fraction of points per fit and are expected to result in smoother curves.

Non-robust *Loess*	
Smoothing Parameter, *f*	**Fraction of Points used in *Loess* Estimation**
0.005	39
0.01	78
0.05	389
0.1	778

Table 7.1: Smoothing parameter, *f*, and fraction of points used in *Loess* estimation.

Robust *Loess*	
Smoothing Parameter, *f*	**Fraction of Points used in R - *Loess* Estimation**
0.005	40
0.01	79
0.05	397
0.1	793

Table 7.2: Smoothing parameter, *f*, and fraction of points used in robust *loess* (R – *loess*) estimation.

To demonstrate the effect that the smoothing parameter size produces on *loess* estimation, a series of maps were created for each smoothing parameter using geothermal gradients as an example. Figures 7.1 – 7.4 show the robust *loess* curves with outliers and robustness, R – *loess*, for geothermal gradients using smoothing parameters ranging from 0.005 – 0.1. Larger images of Figures 7.1 – 7.4 are included in Appendix D.

The R - *loess* curves for geothermal gradient using smoothing parameters $f = 0.005$ and $f = 0.01$, are shown in Figures 7.1 and 7.2, respectively. With 40 observations points per fit for a smoothing parameter $f = 0.005$, some signal is noticed but several areas exhibit "bulls-eye" patterns around areas with low data density. With 79 observation points per fit for a smoothing parameter $f = 0.01$, a good balance between signal and smoothness in the R - *loess* curves occurs. Areas with low and high values are well highlighted, and very few areas exhibit "bulls-eye" patterns.

The R - *loess* curves for smoothing parameters $f = 0.05$ and $f = 0.1$, are shown in Figures 7.3 and 7.4, respectively. With 397 observation points per fit for smoothing parameter $f = 0.05$, and 793 observation points per fit for a smoothing parameter $f = 0.1$, the signal is perhaps overly smoothed.

For *loess* and R - *loess*, the smoothing parameter chosen for this analysis is $f = 0.01$ because it provides a good balance between signal in the data and smoothness of the *loess* curves. Maps showing the *loess* and R - *loess* estimates along with the precision in the estimation of any point (standard errors) of each *loess* method were generated only for geothermal gradient and for the estimated temperatures (˚C) at depth of 4.5 km.

The locally weighted regression was modeled using the *R Foundation for Statistical Computing* (R Development Core Team, 2011) and *ArcGIS 10* (ESRI, Inc., 2010). The *R Statistical Computing* package used include *locfit*: Local Regression, Likelihood and Density Estimation (Loader, 1997; 1999). The *ArcGIS 10* toolboxes used in the analysis included the *3D Analyst Tools* (ESRI, Inc., 2010).

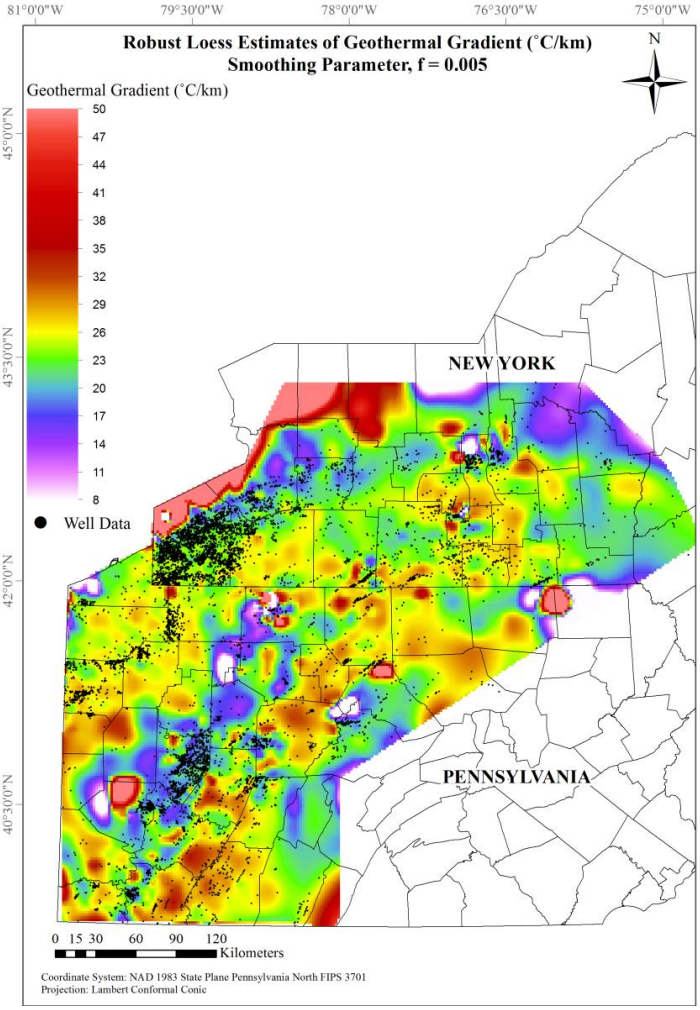


Figure 7.1: R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.005$

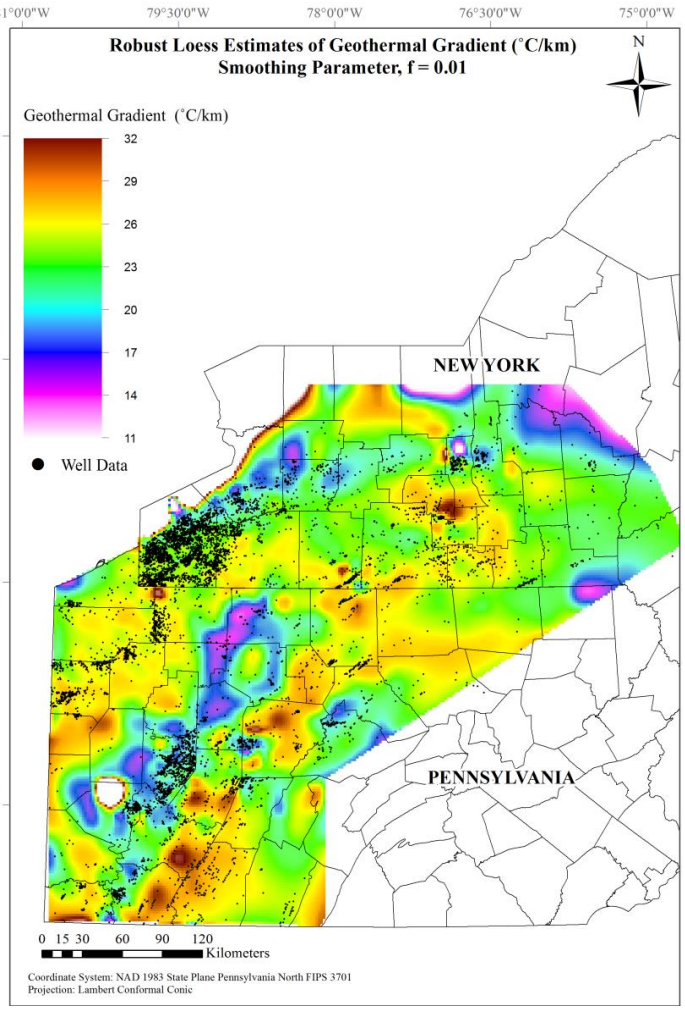


Figure 7.2: R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.01$.

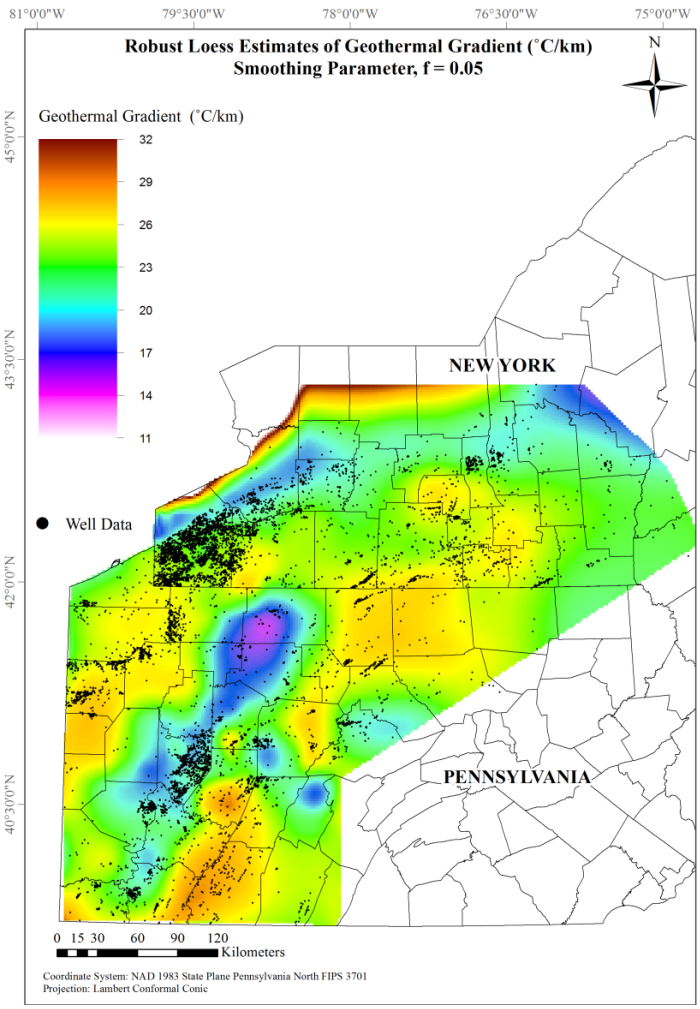


Figure 7.3: R–*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.05$.

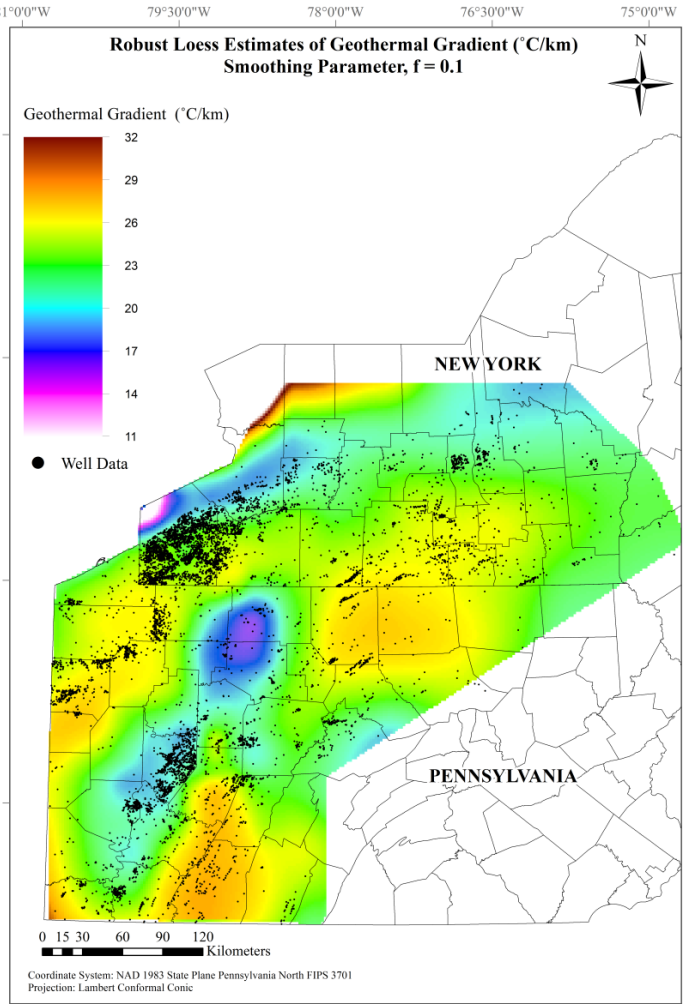


Figure 7.4: R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.1$.

Figures 7.5 and 7.6 show estimated geothermal gradients with a smoothing parameter $f = 0.01$ using *loess* with no outliers and no robustness and R-*loess* with outliers and robustness, respectively. Figures 7.7 and 7.8 show the standard error of geothermal gradients with a smoothing parameter $f = 0.01$ for *loess* and R-*loess* estimates, respectively. Generally, both *loess* and R-*loess* estimates and standard error estimates for geothermal gradients show similar results. For comparison between *loess* and R-*loess* estimates, side-by-side views are included in Appendix E.

From our analysis of both *loess* and R - *loess*, the average estimated geothermal gradient for New York State is 23.1 ˚C/km. The average estimated geothermal gradient for Pennsylvania is 24.0 ˚C/km. The precision in the estimation of any point (standard errors) for gradients within the estimated area of New York State and Pennsylvania for both *loess* and R-*loess* ranged from 0.5 – 10.0 ˚C/km. The precision in the estimates between 0.5 – 2.0 ˚C/km correspond to areas with high data density. Areas with modest data density display precision in the estimates between 2 – 4 ˚C/km. Areas with sparse or no data display precisions as high as 10.0 ˚C/km.

From our *loess* and R-*loess* analysis, geothermal gradients for central New York are estimated to range from 19 – 33 ˚C/km with a precision in the estimates between 0.6 – 4.3 ˚C/km. Modest gradients, greater than 25 ˚C/km and with a precision within 2.5 ˚C/km, are recorded in several counties of central New York. High gradients, greater than 30 ˚C/km and with a precision within 2.5 ˚C/km, are recorded in the counties of Yates, Seneca, and Schuyler in central New York.

Estimated geothermal gradients for southwestern New York from our *loess* and R-*loess* ranged from 24.0 - 27.4 ˚C/km with a precision in the estimates between 0.7 – 2.2 ˚C/km.

Modest gradients are recorded in the counties of Cattaraugus, Allegany, and Steuben County. A map highlighting the counties included in each of the regions for New York State and Pennsylvania is included in Appendix B.

From our analysis, estimated geothermal gradients for north central Pennsylvania range from 21.8 – 30.3 ˚C/km with a precision in the estimates between 0.6 – 2.6 ˚C/km. In south central Pennsylvania, estimated gradients range from 20.3 – 33.2 ˚C/km with precision in the estimates between 0.6 – 2.8 ˚C/km. Modest gradients, greater than 25 ˚C/km and with a precision within 2.0 ˚C/km, are recorded in the counties of Potter, Cameron, Clearfield, Indiana, Westmoreland, Somerset, and Fayette. These counties also report areas of high gradients, greater than 30 ˚C/km and with a precision within 2.0 ˚C/km. Western Pennsylvania also reports several counties with modest gradients.

Even though most *loess* and R-*loess* estimated regions closely agree, some differences are reported. For example, R-*loess* with outliers and robustness in Warren County in Pennsylvania (*see Appendix B for location*) show a high gradient area estimated at 33 ˚C/km with a precision within 2.0 ˚C/km in a "bulls-eye" pattern. *Loess* with no outliers and no robustness does not report that high gradient area. The high gradient area reported in the R-*loess* estimation includes an observation classified as a global and local outlier with a value of 50 ˚C/km. All other observation points surrounding that high gradient outlier in Warren County have values between 25 – 26 ˚C/km. Outlier detection and treatment techniques might be more efficient at reducing the influence that outlying values have on interpolation and regression analyses.

Other differences in the *loess* and R-*loess* outputs occur along the boundaries of the study area. Generally, the boundaries of the Appalachian Basin of New York and Pennsylvania have low data densities; therefore, both *loess* outputs along the boundaries are unreliable.

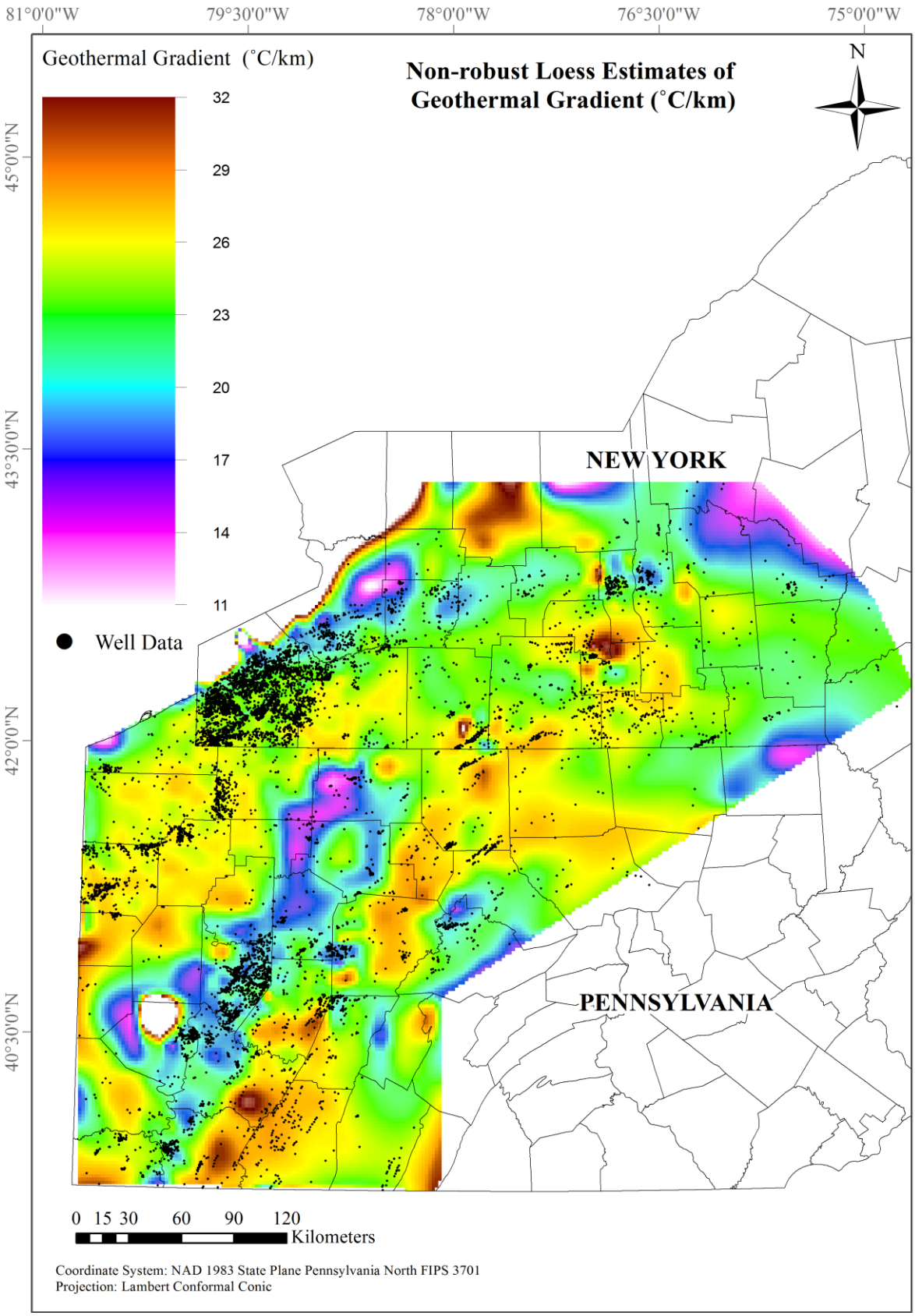


Figure 7.5: *Loess* estimates of geothermal gradient (˚C/km) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

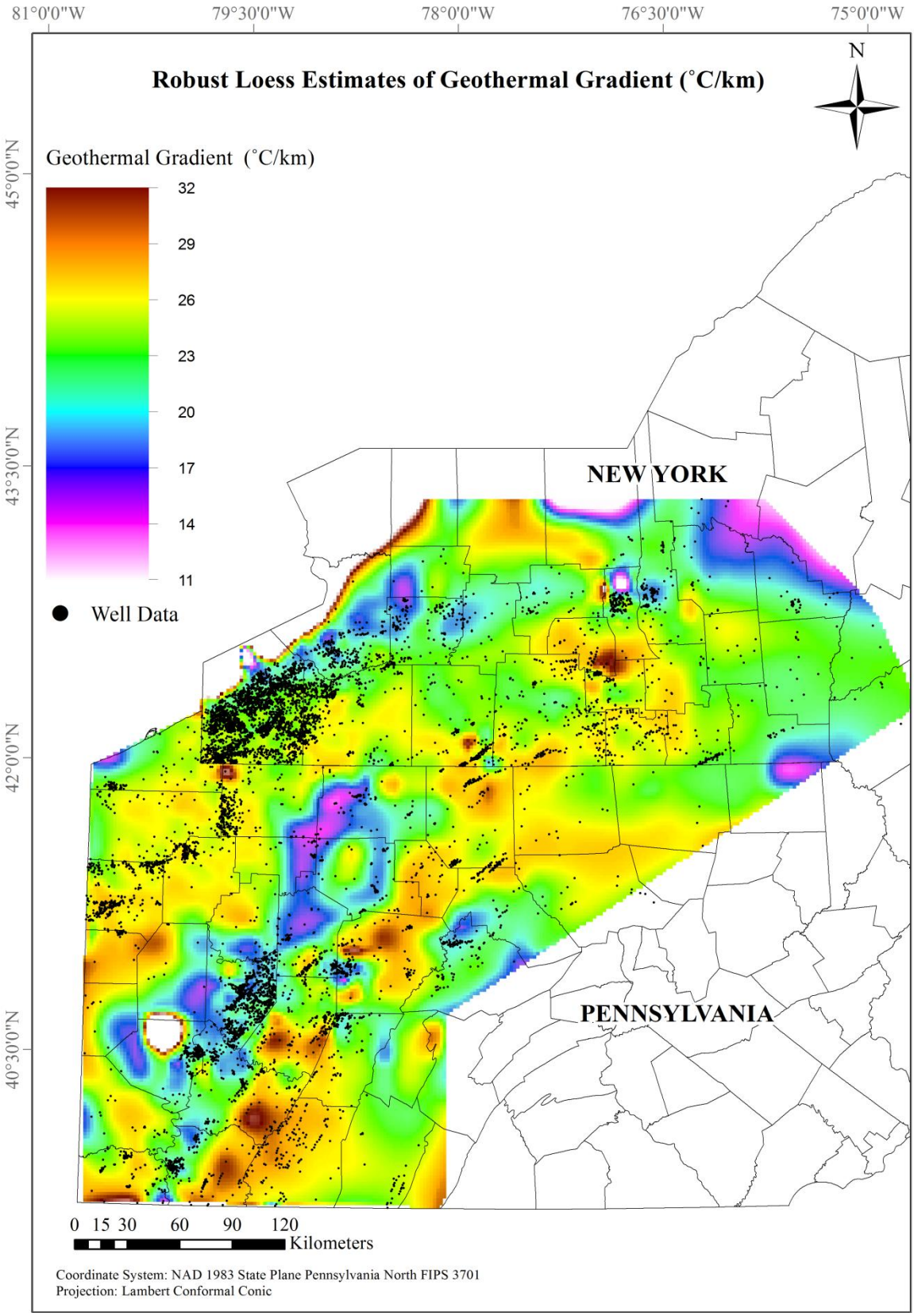


Figure 7.6: Robust *loess* (R-*loess*) estimates of geothermal gradient (˚C/km) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

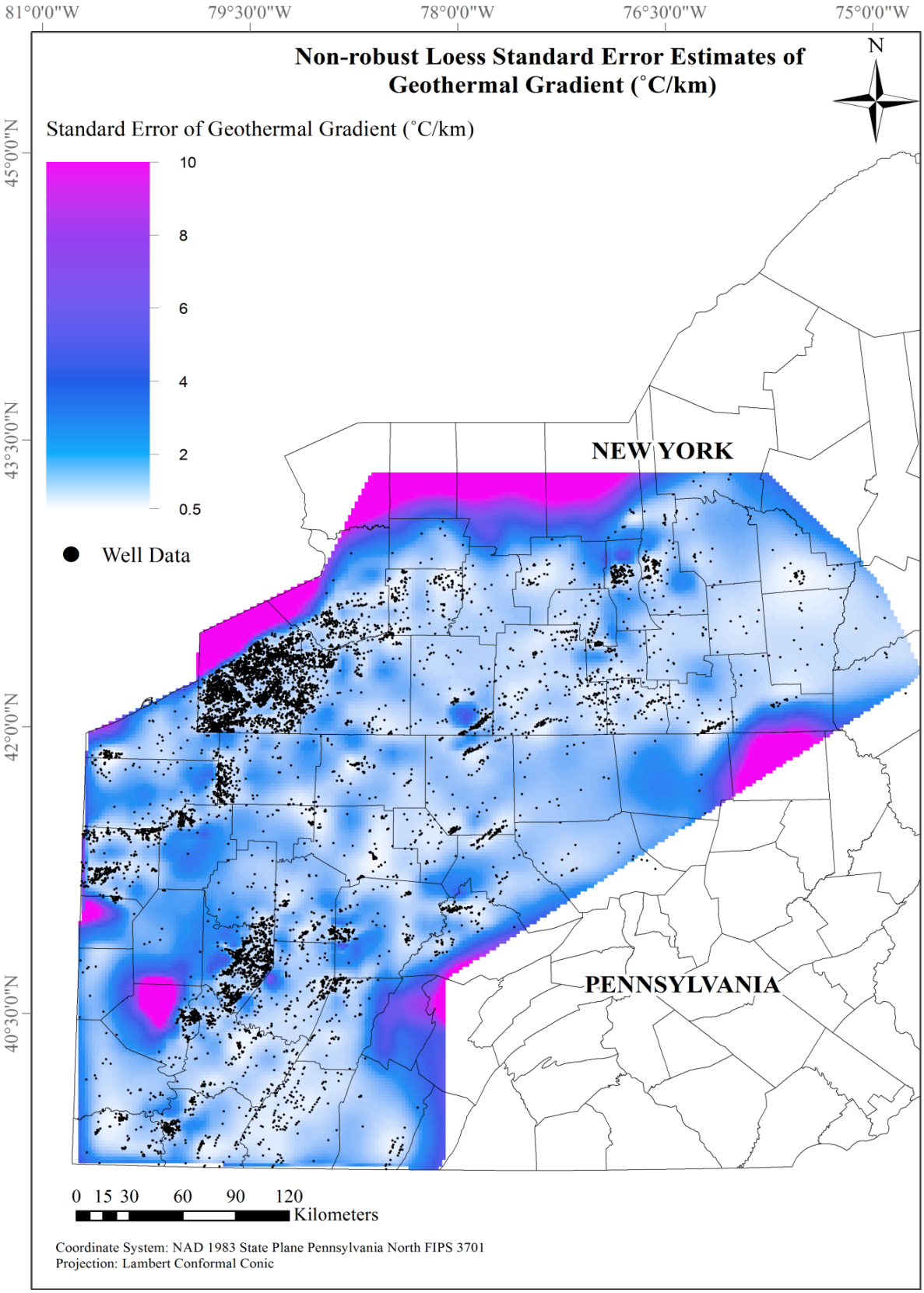


Figure 7.7: *Loess* standard error estimates of geothermal gradient (ºC/km) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

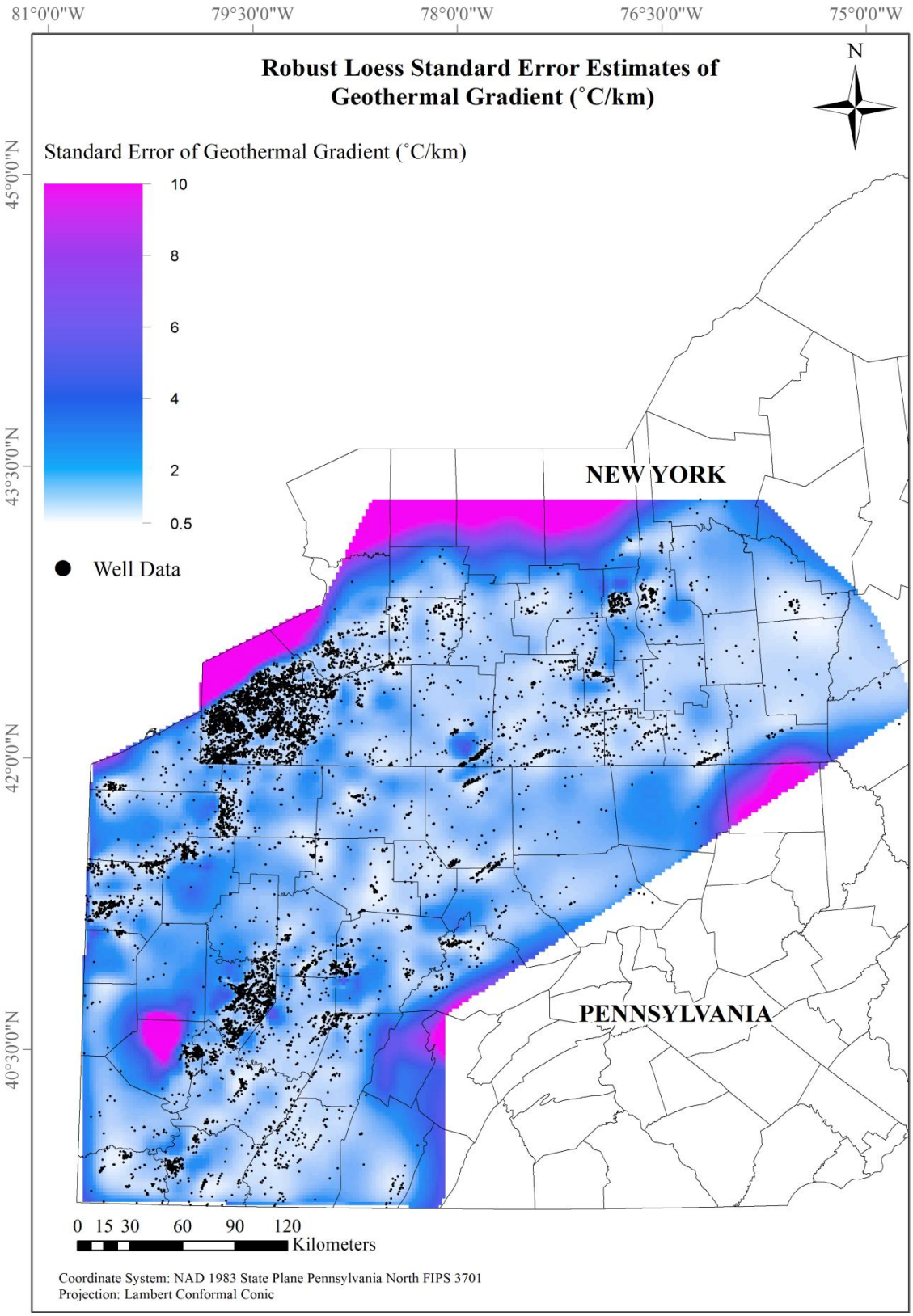


Figure 7.8: Robust *Loess* (R-*loess*) standard error estimates of geothermal gradient (ºC/km) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

Figures 7.9 and 7.10 show estimated temperatures (˚C) at depth of 4.5 km with a smoothing parameter f = 0.01 using *loess* with no outliers and no robustness and R-*loess* with outliers and robustness, respectively. Figures 7.11 and 7.12 show the standard error of temperatures (˚C) at depth of 4.5 km with a smoothing parameter f = 0.01 for *loess* and R-*loess* estimates, respectively. For comparison between *loess* and R-*loess* estimates, side-by-side views are included in Appendix E.

Similar to the *loess* estimation of geothermal gradients, both *loess* and R-*loess* estimates and standard error estimates for temperature at depth of 4.5 km show similar results. From our analysis, the average estimated temperature at depth of 4.5 km for New York State is 94 ˚C for both *loess* and R - *loess*. The average estimated temperature at depth of 4.5 km for Pennsylvania is 119 ˚C. The precision in the estimation of any point (standard errors) within the estimated area of New York State and Pennsylvania for both *loess* and R-*loess* ranged from 2.1 – 25.0 ˚C. The precision in the estimates between 2.1 –5.0 ˚C correspond to areas with high data density. Areas with modest data density display precision in the estimates between 5 – 10 ˚C. Areas with sparse or no data display precisions as high as 25.0 ˚C.

From our *loess* and R-*loess* analysis, temperatures (˚C) at depth of 4.5 km for central New York are estimated to range from 76 – 136 ˚C with a precision in the estimates between 2.7 – 18.7 ˚C. Specifically, the counties of Seneca, Schuyler, Tompkins, Chemung, and Tioga exceed temperatures of 100 ˚C at a depth of 4.5 km with a precision within 8.0 ˚C. Several counties in southwestern New York, including Steuben, Cattaraugus, and Yates, also exceed temperatures of 100 ˚C at a depth of 4.5 km with a precision within 8 ˚C. Southwestern New York reports estimated temperatures between 95 – 113 ˚C with a precision in the estimates between 3.0 – 10.0 ˚C.

From our analysis, estimated temperatures (˚C) at depth of 4.5 km for north central Pennsylvania range from 97 – 194 ˚C with a precision in the estimates between 2.7 – 11.2 ˚C. In Potter County, temperatures surpass 180.0 ˚C with a precision within 6.0 ˚C. The counties of Cameron and Clearfield exceed temperatures of 140.0 ˚C with a precision within 8.0 ˚C. In south central Pennsylvania, estimated temperatures at depths of 4.5 km range from 97 – 170 ˚C with precision in the estimates between 2.7 – 12.2 ˚C. The counties of Indiana, Westmoreland, Fayette, and Somerset exceed temperatures of 140 ˚C with a precision within 8 ˚C.

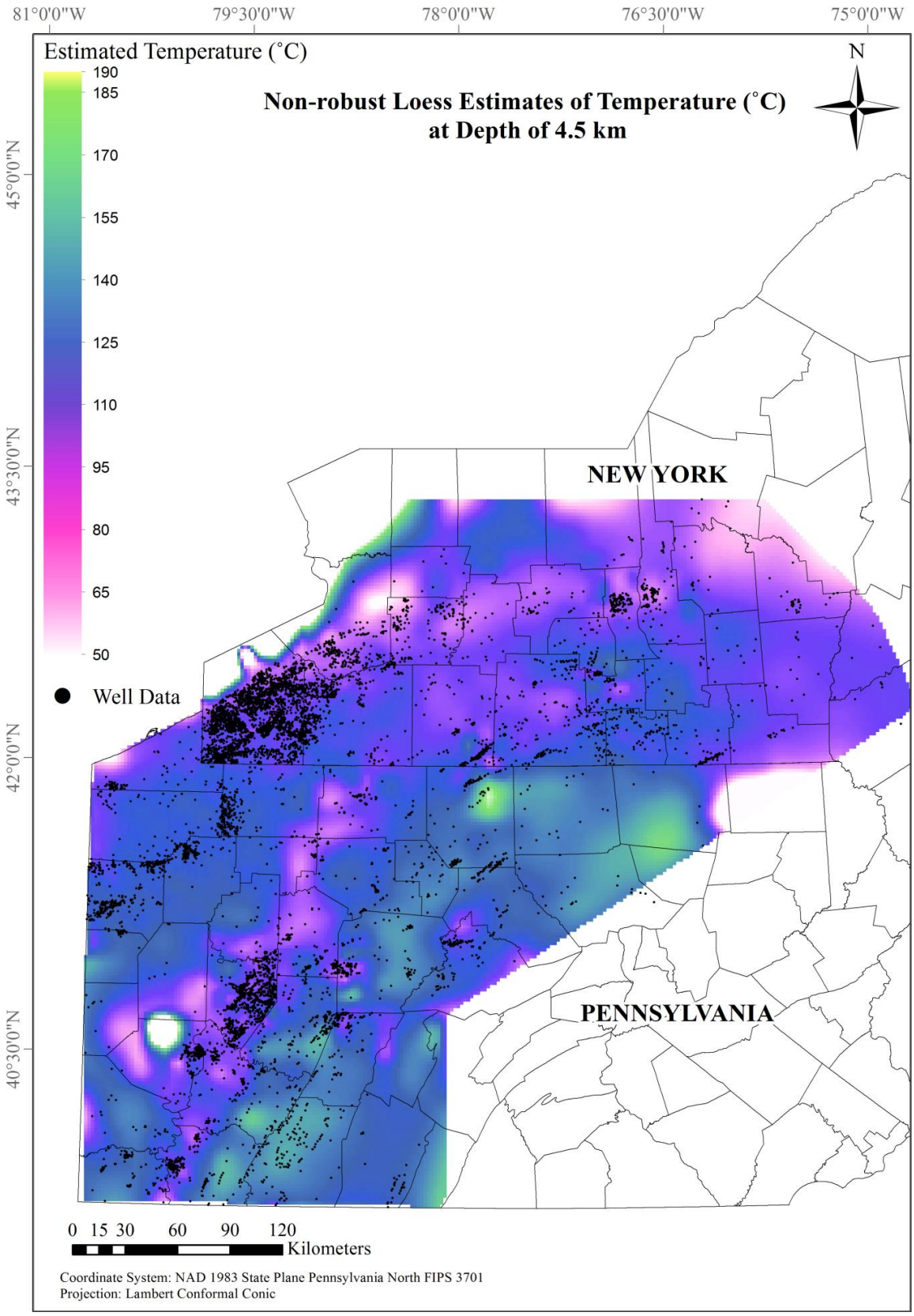


Figure 7.9: *Loess* estimates of temperature (˚C) at depth of 4.5 km with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

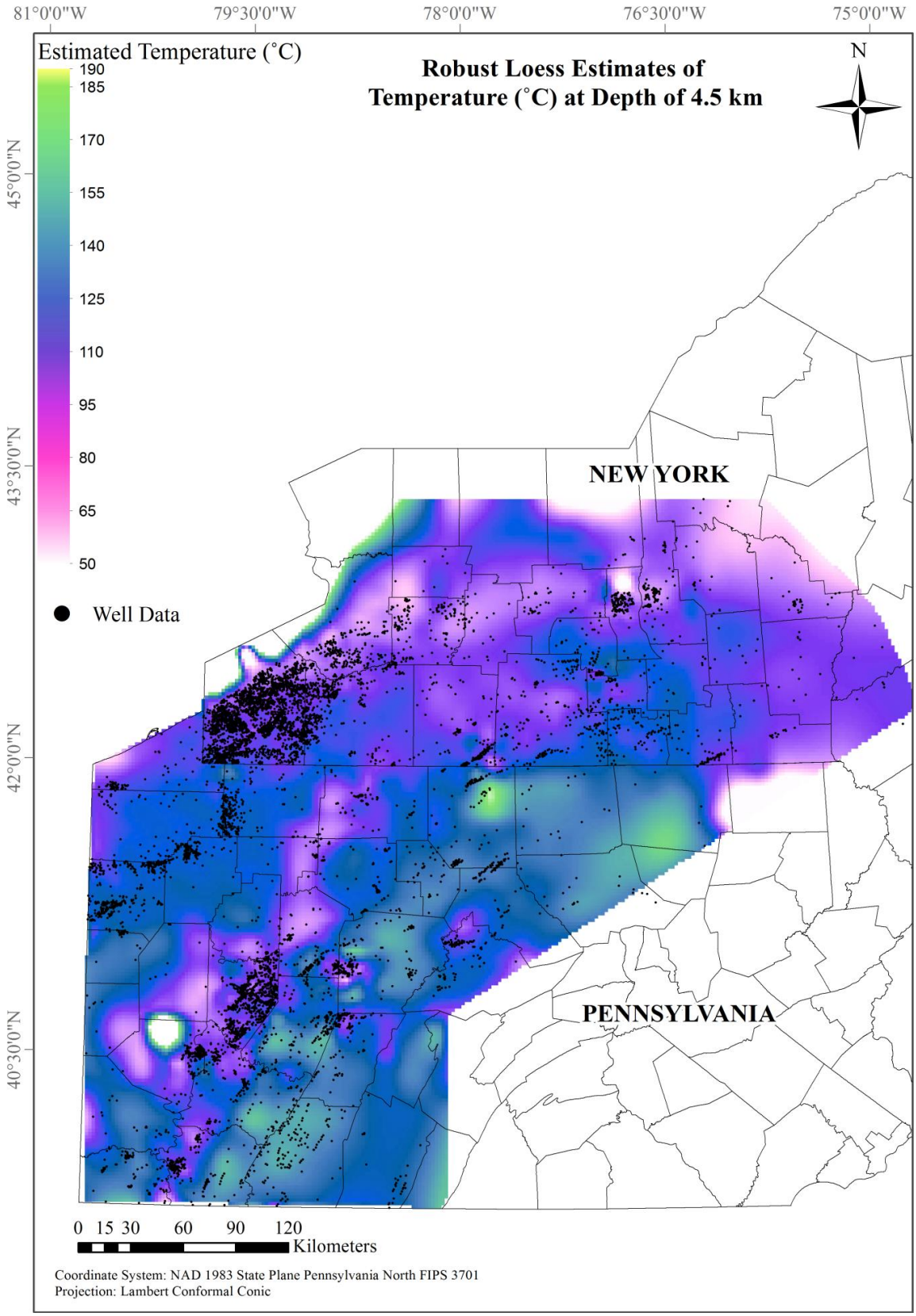


Figure 7.10: Robust *loess* estimates of temperature (˚C) at depth of 4.5 km with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

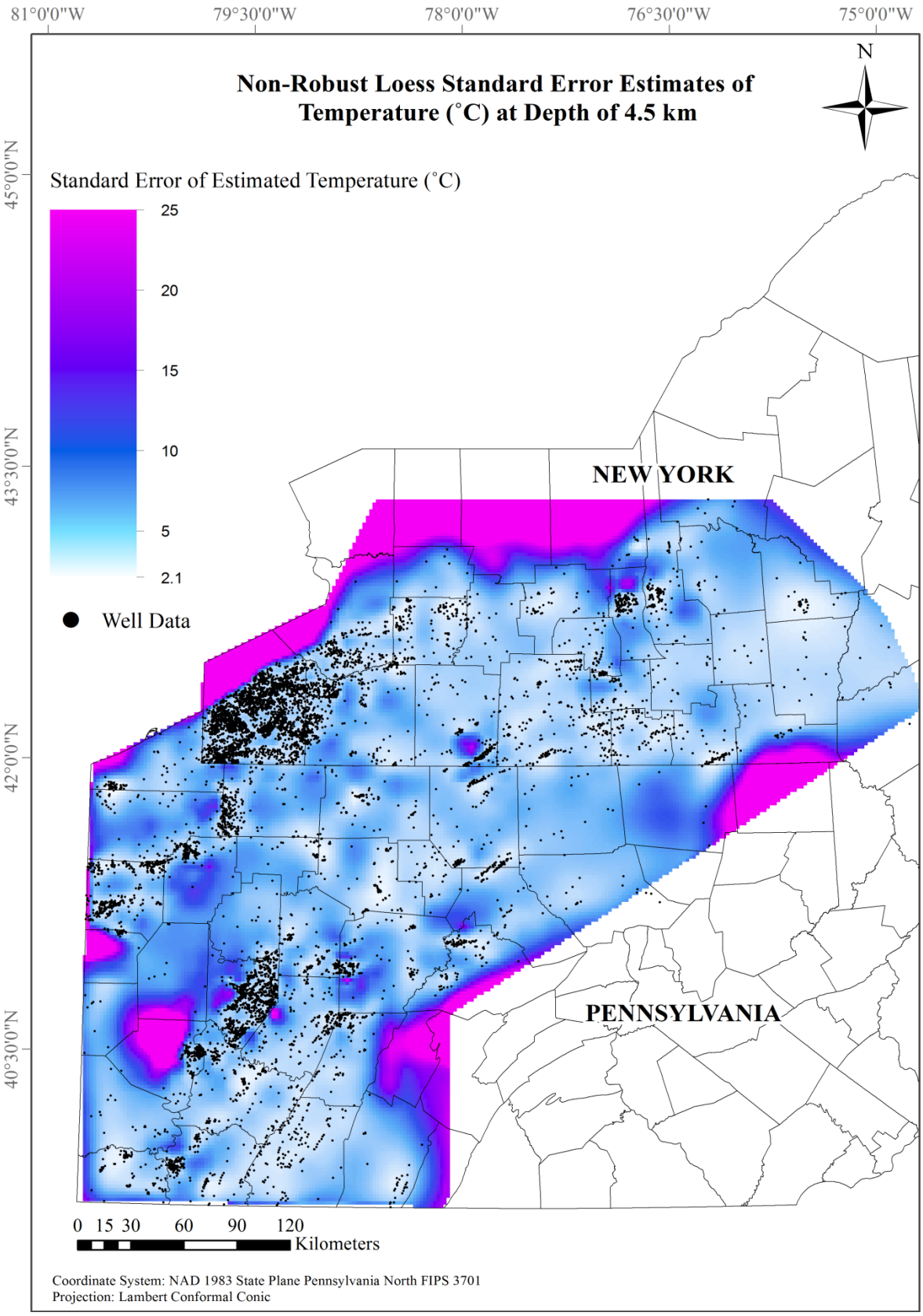


Figure 7.11: *Loess* standard error estimates of temperature (˚C) at depth of 4.5 km with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

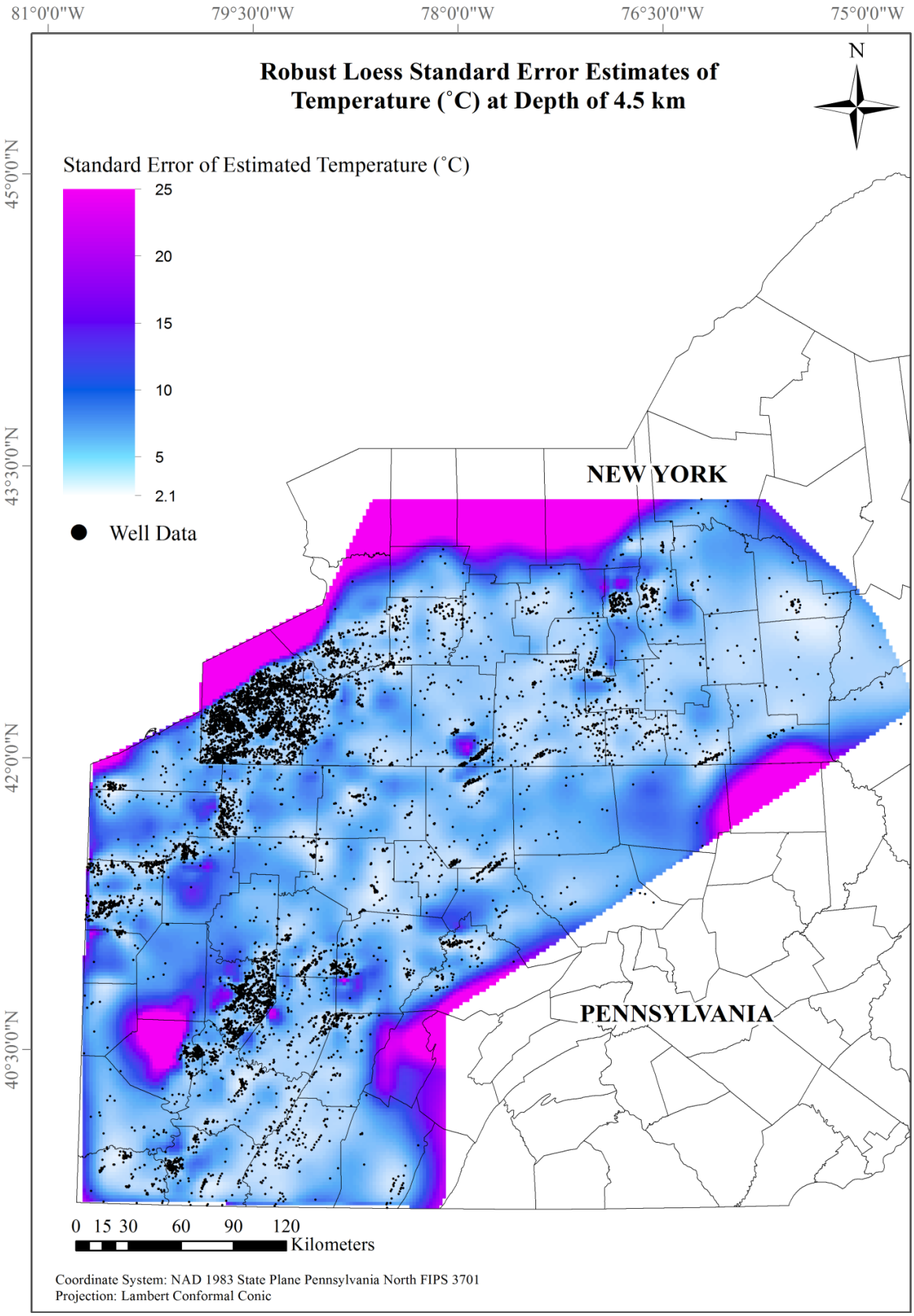


Figure 7.12: Robust *loess* standard error estimates of temperature (˚C) at depth of 4.5 km with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

7.5 Cross Sections for Locally Weighted Regression Maps

This section provides a discussion on the *loess* estimated values of geothermal variables, and the statistical significance of the variations in the estimates along cross sections. Cross sections were made for *loess* with no outliers and no robustness and R-*loess* with outliers and robustness. Both used a smoothing parameter of $f = 0.01$. The geothermal variables considered in this section are the geothermal gradients and the estimated temperatures at depth of 4.5 km.

The map in Figure 7.13 shows the location for cross section C – C' and D – D', and the location of the top layer of the Precambrian formation found at a depth of 4.5 km. Based on the *loess* estimates and the standard error of the *loess* estimates, 95% confidence bands were included for each cross section for the two *loess* methods.

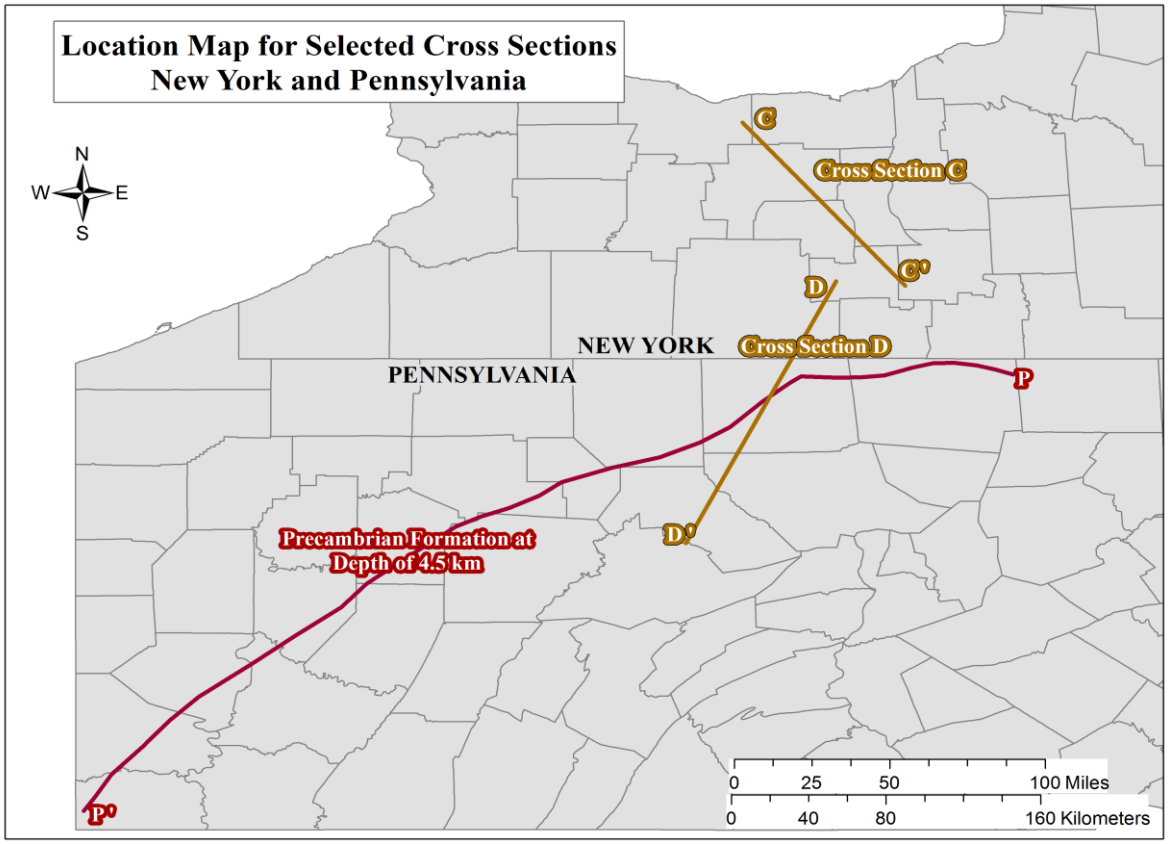


Figure 7.13: Location map of cross sections (brown) for New York and Pennsylvania. Location of the top layer of the Precambrian formation found at a depth of 4.5 km (maroon). Source: Patchen et al., 2006.

Figure 7.14 shows geothermal gradients (˚C/km) with 95% confidence bands along line C – C' for both *loess* estimates with no outliers and no robustness and R-*loess* estimates with outliers and robustness. Estimated geothermal gradients for both *loess* outputs decrease from the beginning of the cross section to a distance of 30 km. From a distance of 0 – 20 km, confidence bands are very wide because of lack of data in that area. There is no statistical significance in the decrease of estimated gradients from a distance of 0 – 30 km. After a distance of 30 km, gradients gradually increase. High gradients of 30 ˚C/km are reported at a distance of 80 km. The increase in gradients from a distance of 75 – 85 km is statistically significant because confidence bands do not overlap those at a distance of 30 – 60 km. After a distance of 85 km, gradients gradually decrease. No statistical significance is reported.

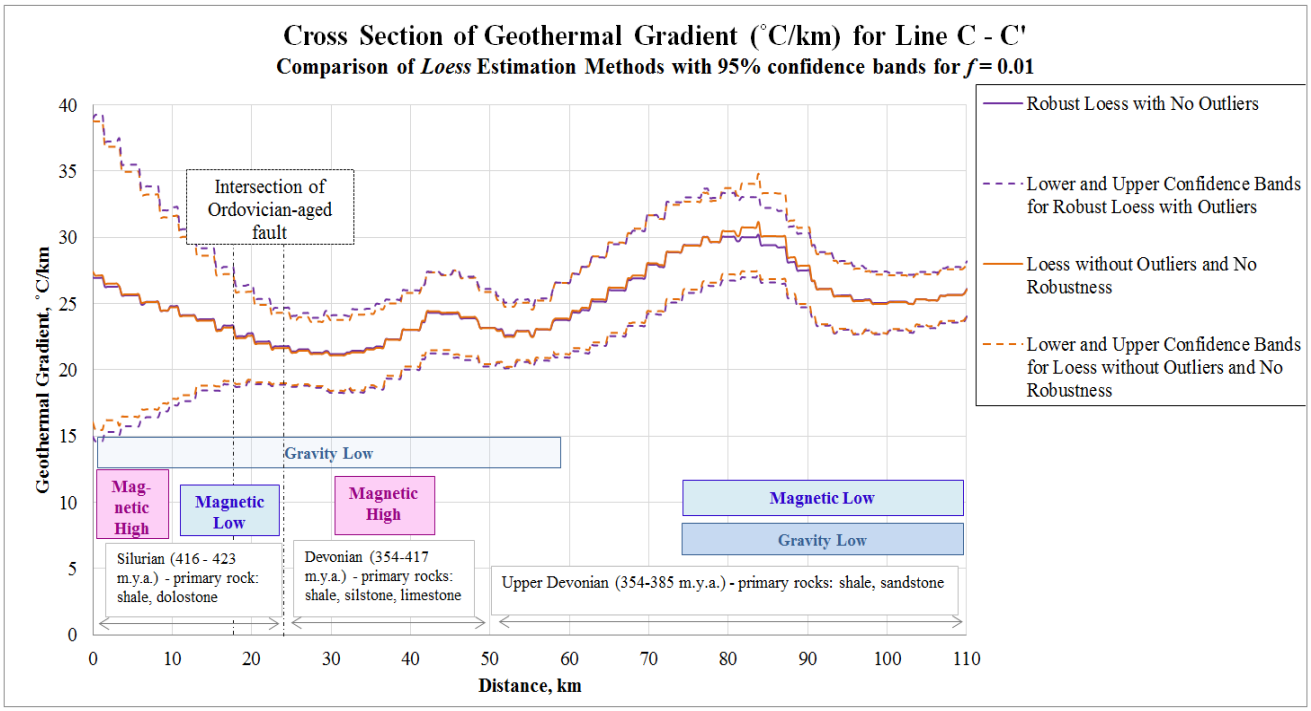


Figure 7.14: Cross section of geothermal gradients (˚C/km) for line C – C' with 95% confidence bands for *loess* (orange lines) and R – *loess* (purple lines).

Figure 15 shows geothermal gradients (˚C/km) with 95% confidence bands along line D – D' for *loess* and R - *loess* estimates. Estimated geothermal gradients for both *loess* outputs are relatively constant around a value of 24 – 26 ˚C/km from the start of the start of the cross section to a distance of 60 km. From a distance of 60 – 100 km, estimated geothermal gradients increase to 27 ˚C/km. No statistical significance is reported. After a distance of 100 km, gradients decrease to a low of 23 ˚C/km at a distance of 140 km. The decrease in gradients from a distance of 130 – 150 km is statistically significant.

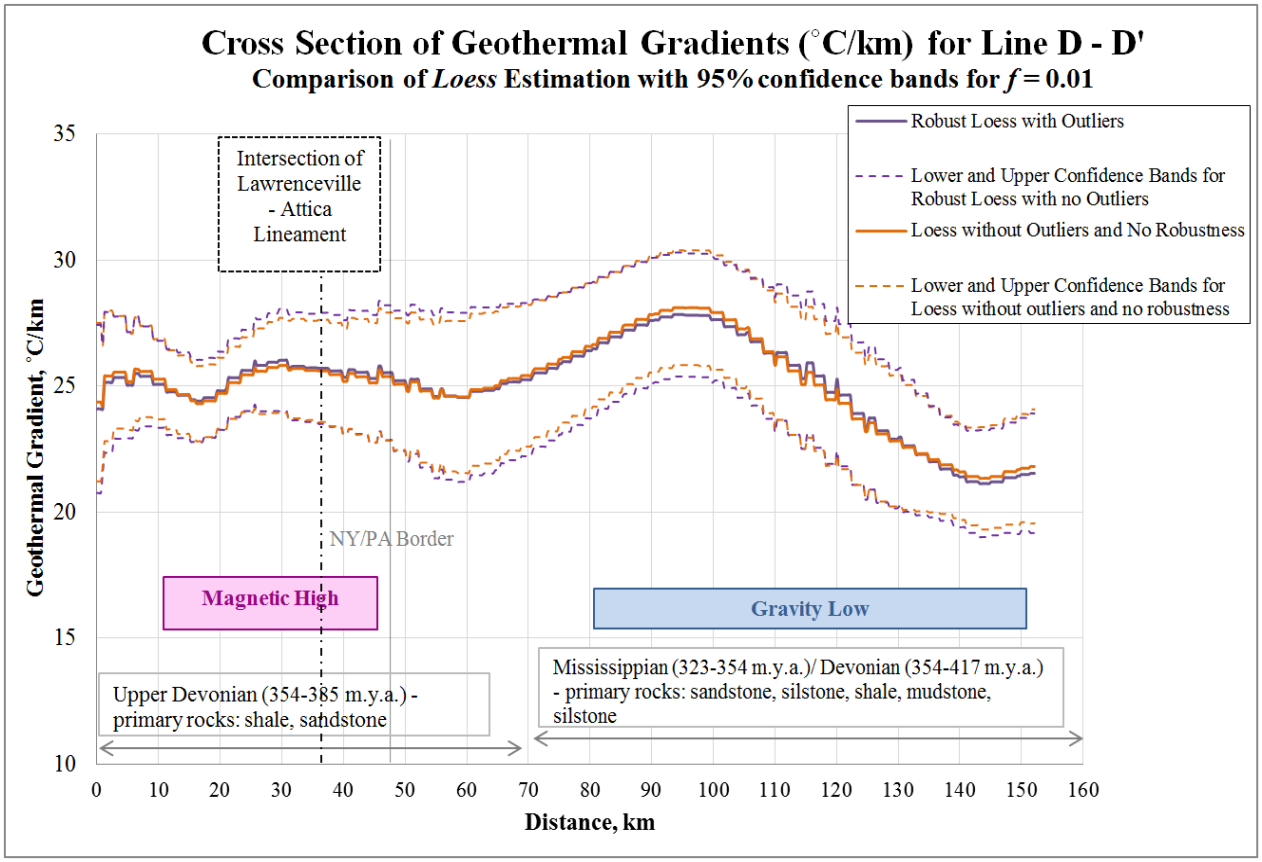


Figure 7.15: Cross section of geothermal gradients (˚C/km) for line D – D' with 95% confidence bands for *loess* (orange lines) and R-*loess* (purple lines).

Figure 7.16 shows the estimated temperatures at depth of 4.5 km along the top of the Precambrian formation for *loess* and R – *loess* estimates. For both *loess* outputs, an increase in estimated temperatures occurs from a distance of 0 - 180 km, which appears statistically significant. From a distance of 180 - 380 km, both *loess* outputs show a decrease in estimated temperatures that also appears statistically significant. A thermal spike with a temperature of 140 ˚C occurs at a distance of 410 km. The increase in temperatures from a distance of 380 - 410 km appears statistically significant, but is questionable because the location of this spike is at the edge of the map.

Differences in the estimated temperatures for both *loess* outputs occur from a distance of 210 - 290 km. The estimates of both models from a distance of 210 – 290 km are within the confidence bands of each other. As previously stated with the R-*loess* estimation of geothermal gradients, some areas in the R-*loess* estimation of temperature-at-depth of 4.5 km also report high estimated temperatures in a “bulls-eye” pattern. These patterns are observed in areas where global and local outliers for gradients and heat flow are located.

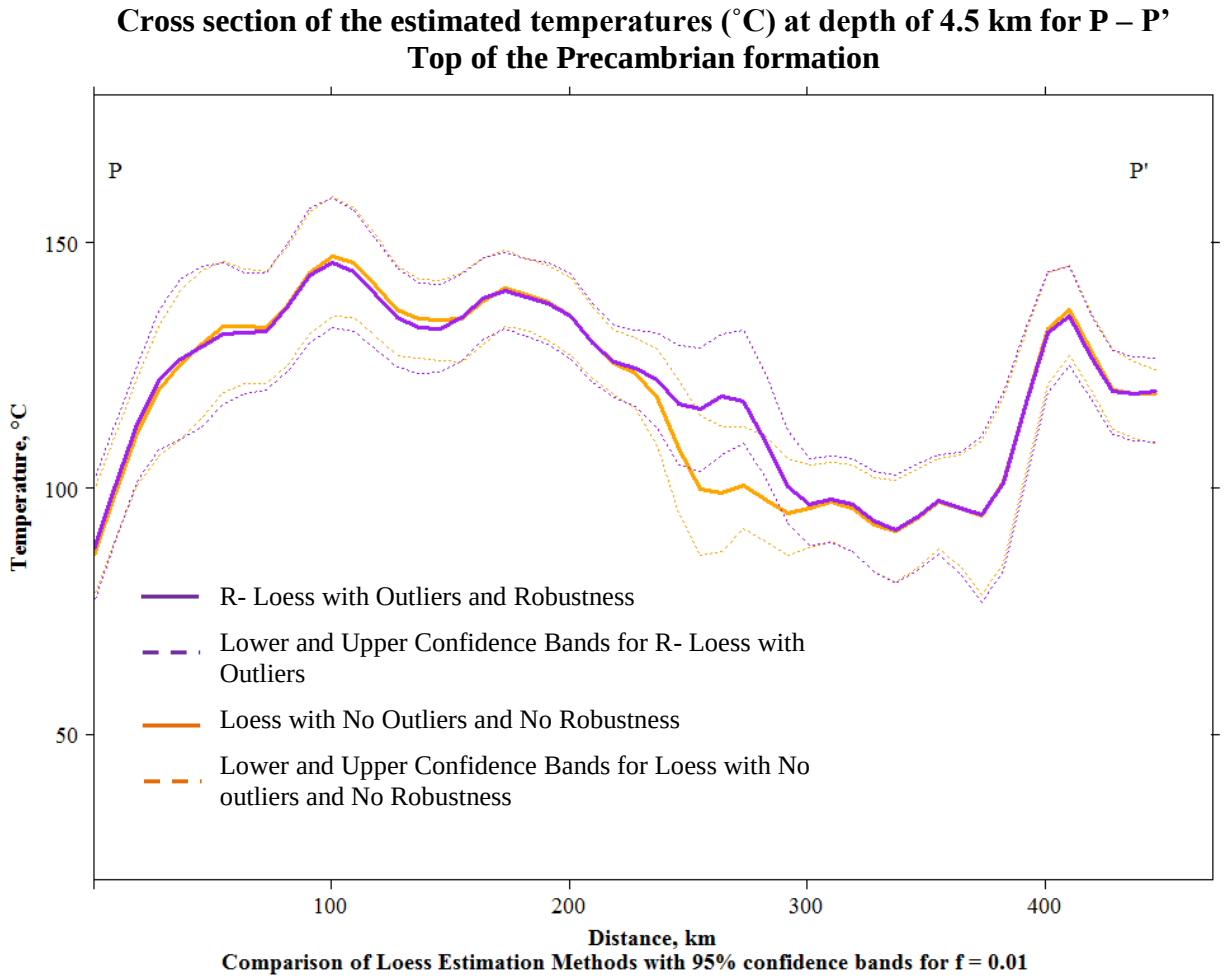


Figure 7.16: Cross section of the estimated temperatures (˚C) at depth of 4.5 km with 95% confidence bands for the top of the Precambrian formation for *loess* (orange lines) and R – *loess* (purple lines).

7.6 Conclusions

This chapter investigates the use of local regression methods with geothermal data and the treatment of outliers. In this thesis, locally weighted regression smoother (*loess*) is tested without and with outliers. A robust version of *loess* that down-weights outliers is employed with the dataset that contains outliers, which we call *R-loess*. In this chapter, both *loess* procedures are employed to provide estimates of geothermal resources for the Appalachian Basin of New York and Pennsylvania, and to estimate the uncertainty of its assessments. R-*loess* with outliers and robustness and *loess* with no outliers and no robustness were used to model geothermal gradients and the estimated temperatures (˚C) at depth of 4.5 km for the Appalachian Basin of New York and Pennsylvania.

Based on our analysis, the *loess* smoothing parameter $f = 0.01$ provides a good balance between signal in the data and smoothness of the *loess* curves. This smoothing parameter was used for maps showing the *loess* and R-*loess* estimates and the standard errors of the *loess* and R-*loess* estimates for geothermal gradients (˚C/km) and estimated temperatures (˚C) at depth of 4.5 km.

Based on our *loess* and R-*loess* analysis, both outputs reported similar estimates and standard error estimates for geothermal gradients. The average geothermal gradient using *loess* and R-*loess* for the Appalachian Basin of New York and Pennsylvania is 23.6 ˚C/km with a precision in the estimation of any point (standard errors) between 0.5 – 10.0 ˚C/km. The precision in the estimates between 0.5 – 2.0 ˚C/km correspond to areas with high data density. Areas with modest data density display precision in the estimates between 2 – 4 ˚C/km. Modest gradients, greater than 25 ˚C/km and with a precision within 2.5 ˚C/km, are recorded in central

and southwestern New York, and in the eastern border of the Appalachian Basin in Pennsylvania and in western Pennsylvania.

From our *loess* and R-*loess* analysis, the average estimated temperature (˚C) at depth of 4.5 km for the Appalachian Basin of New York and Pennsylvania is 109 ˚C. The precision in the estimation of any point (standard errors) within the interpolated region was between 2 – 25 ˚C. The precision in the estimates between 2.1 –5.0 ˚Cm correspond to areas with high data density. Areas with modest data density display precision in the estimates between 5 – 10 ˚C.

Several counties in central and southwestern New York report estimated temperatures at depth of 4.5 km that exceed 100 ˚C with a precision in the estimates within 8 ˚C. North central and south central Pennsylvania counties report estimated temperatures that exceed 140 ˚C with a precision within 8 ˚C.

Differences in the *loess* and R-*loess* outputs occur along the boundaries of the study area. Generally, the boundaries of the Appalachian Basin of New York and Pennsylvania have low data densities; therefore, both *loess* outputs along the boundaries are unreliable. Other differences where R-*loess* produces higher estimates than *loess* in a "bulls-eye" pattern were reported. These patterns are observed in areas where global and local outliers for gradients and heat flow are located. Outlier detection and treatment techniques might be more efficient at reducing the influence that outlying values have on interpolation and regression techniques.

To determine the statistical significance between the two *loess* outputs, several cross sections were made to analyze differences in the estimates and standard error estimates between *loess* and R-*loess*. The 95% confidence bands were used to determine statistical significance in the variation of the estimates. Areas where the confidence bands did not overlap were

determined to be statistically significant. In many regions of the two states the analysis was unable to resolve differences between *loess* and R-*loess* in the estimates of geothermal gradients and estimated temperatures-at-depth of 4.5 km.

REFERENCES

Andrews, D.F. (1974). A Robust Method for Multiple Linear Regression. Technometrics, vol. 16, pp. 523-531.

Beaton, A. E. and Tukey, J.W. (1974). The Fitting of Power Series, Meaning Polynomials, Illustrated on Band-Spectroscopic Data. Technometrics, vol. 16, pp. 147 – 185.

Cleveland, W.S. (1979). Robust Locally Weighted Regression and Smoothing Scatterplots. Journal of the American Statistical Association. Vol. 74, No. 368, pp. 829 – 836.

Cleveland, W. S. and Devlin, S. J. (1988). Locally Weighted Regression: An Approach to Regression Analysis by Local Fitting. Journal of the American Statistical Association. Vol. 83, No. 403, pp. 596-610.

ESRI, Inc. (2010). ArcMap Version 10.0, ArcInfo. Redlands, CA. Environmental Systems Research Institute.

Jacoby, W. G. (1997). Statistical Graphics for Univariate and Bivariate Data. Sage University Papers.

Jacoby, W. G. (2000). Loess: A Nonparametric, Graphical Tool for Depicting Relationships between Variables. Department of Government & International Studies, University of South Carolina.

Loader, C. (1997). Locfit: An Introduction. Statistical Computing and Graphics, Newsletter. LOCFIT: Local Regression and Likelihood. <http://cm.bell-labs.com/cm/ms/departments/sia/project/locfit/index.html>.

Loader, C. (1999). Locfit: Local Regression, Likelihood and Density Estimation. Version 1.5-9.1. <http://cran.r-project.org/web/packages/locfit/index.html> .

New York State Department of Environmental Conservation (NYSDEC). (2011). Oil and Gas Searchable Database. Retrieved February 2011 from <http://www.dec.ny.gov/cfmx/extapps/GasOil/search/wells/index.cfm.>

Patchen, D.G., Hickman, J.B., Harris, D.C., Drahovzal, J.A., Lake, P.D., Smith, L.B., Nyahay, R., Schulze, R., Riley, R.A., Baranoski, M.T., Wickstrom, L.H., Laughrey, C.D., Kistelnik, J., Harper, J.A., Avary, K.L., Bocan, J., Hohn, M.E., McDowell, R. (2006). A Geologic Play Book for Trenton-Black River Appalachian Basin Exploration. Trenton-Black River Project. DOE Award Number: DE-FC26-03NT41856.

Pennsylvania, Department of Conservation and Natural Resources (PA, DCNR). (2012). Subsurface Rock Correlation Diagram: Oil and Gas Producing Regions of Pennsylvania. Bureau of Topographic and Geologic Survey. <http://www.dcnr.state.pa.us/topogeo/drc/drcdiagram.aspx>.

R Development Core Team. (2011). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0. <www.R-project.org.>

Rodriguez, R. N. and Balan, T. E. (2008). Creating Statistical Graphics in SAS® 9.2: What Every Statistical User Should Know. Statistical and Data Analysis: SUGI 31 Proceedings: Paper, pp. 192-31.

SMU Geothermal Lab. (2008). Regional Geothermal Database of U.S. Geothermal Resources. Southern Methodist University. <http://smu.edu/geothermal/georesou/resource.htm>.

Wilks, D. (1995). Statistical Methods in the Atmospheric Sciences: An Introduction. Volume 59 in International Geophysics Series. Academic Press.

CHAPTER 8

COMPARISON OF KRIGING GEOSTATISTICAL INTERPOLATOR AND LOCALLY WEIGHTED REGRESSION (*LOESS*)

8.1 Introduction

This chapter provides a comparison of the estimates reported by kriging interpolation and locally weighted regression (*loess*). A comparison between the estimates of geothermal gradient reported by kriging and *loess*, kriging and R-*loess*, and *loess* and R-*loess* is provided. This chapter also reports the performance of each method by providing the absolute difference between the estimated value and the observed value, and the root mean square error of each method. The performance of each method is reported for both geothermal gradients and temperatures-at-depth of 4.5 km.

8.2 Performance Measures for Estimation Methods

The performance of kriging, *loess*, and R-*loess* is reported by providing the root mean square error (RMSE) and the absolute difference between the estimated value of each method and the observed value for both geothermal gradients and temperatures-at-depth of 4.5 km.

The RMSE is the root mean squared deviation between the estimated and the observed values, as shown in equation 8-1.

$$\text{RMSE} = \sqrt{\frac{\sum_{i=1}^{n}(\hat{\theta}_i - \theta_i)^2}{n}} \tag{8-1}$$

where, $\hat{\theta}_i$ is the estimated value from the kriging, *loess*, or R-*loess* models of geothermal gradient and temperatures-at-depth of 4.5 km, θ_i is the observed value of geothermal gradient and temperatures-at-depth of 4.5 km from the dataset, and *n* is the total number of points in the dataset.

The absolute difference between the estimated value and the observed value becomes:

$$\text{Absolute difference} = |(\hat{\theta}_i - \theta_i)| \quad (8\text{-}2)$$

8.3 Comparison and Performance of Kriging Interpolation and Loess

A comparison of the estimates for geothermal gradient reported by kriging, *loess*, and R-*loess* was made at each observation point within the dataset. Figure 8.1, 8.2, and 8.3 shows the comparison between the estimates of geothermal gradient reported by kriging and *loess*, kriging and R-*loess*, and *loess* and R-loess, respectively.

From Figures 8.1 and 8.2, the estimates of geothermal gradients for kriging and *loess* are more comparable than the estimates of kriging and R-*loess*. The R^2 statistic for kriging and *loess* is higher than that for kriging and R-*loess* suggesting a better fit between the regression function of kriging and *loess*. This is expected because the dataset used for kriging and *loess* does not contain the global and local outliers identified in Chapter 5. R-*loess* uses the dataset that contains the global and local outliers, but employs a robust version of *loess* that down-weights outliers.

However, the estimates of kriging interpolation and *loess* regression are not equivalent. Kriging geostatistical interpolator is a stochastic method that models spatial dependence among observed values. *Loess* applies local statistical regression within a limited neighborhood around the point of interest. The two methods are quite different in their estimation processes and result in different estimates and standard errors estimates for geothermal gradients and temperatures-at-depth of 4.5 km.

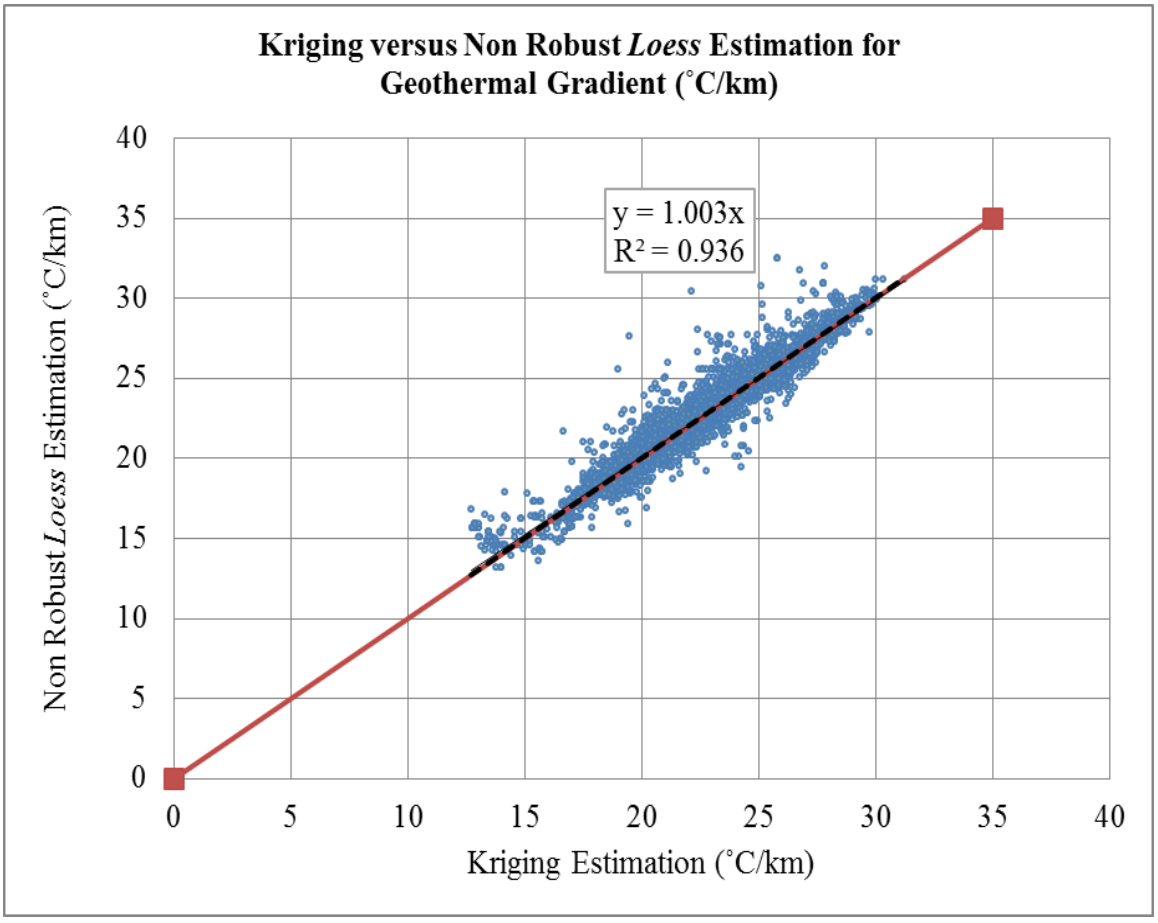


Figure 8.1: Comparison between the estimates of geothermal gradient reported by kriging and *loess* with no outliers and no robustness for each observation point.

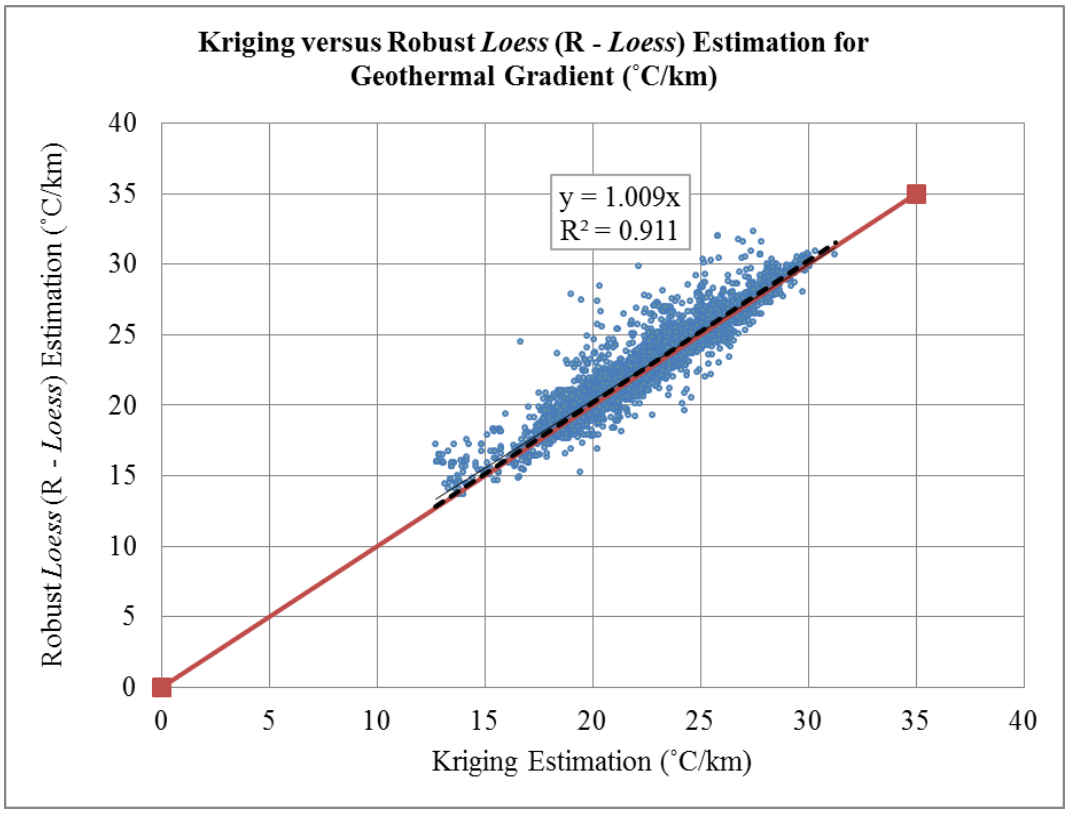


Figure 8.2: Comparison between the estimates of geothermal gradient reported by kriging and R-*loess* for each observation point.

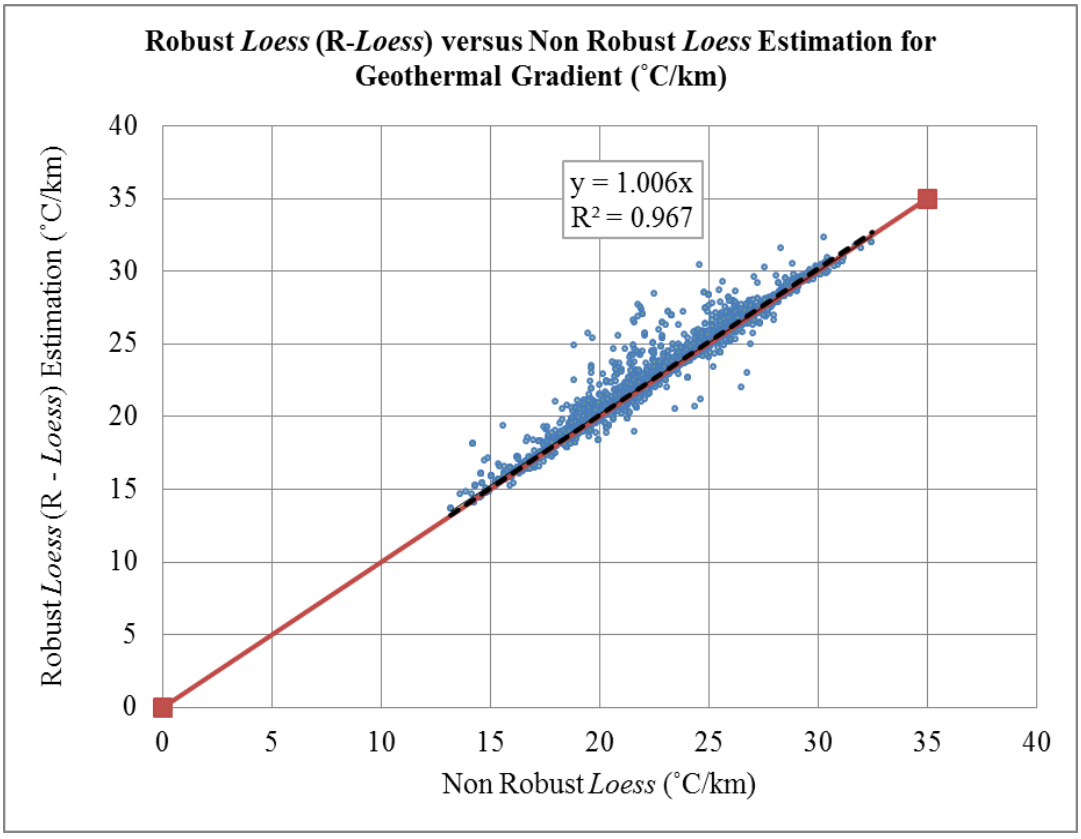


Figure 8.3: Comparison between the estimates of geothermal gradient reported by *loess* and R-*loess* for each observation point.

R-*loess* and *loess*, in Figure 8.3, are the most comparable. The R^2 statistic for R-*loess* and *loess* is the highest of all three. Even though R-*loess* and *loess* use a different dataset for estimation, it was expected that their estimation would produce the most comparable results. It was expected that the robust version of *loess*, R-*loess*, would down-weight the outliers in the dataset and produce estimates comparable to applying outlier detection and treatment techniques in Chapter 5. Even so, there are some differences between the estimates of R-*loess* and *loess*. The comparison plots for geothermal gradients, Figures 8.1 – 8.3, are not able to determine which of the three estimation methods is better.

For the estimated temperature-at-depth of 4.5 km, the comparison plots of all estimation methods produce similar outputs to those of gradients. The comparison plots for temperature-at-depth of 4.5 km were not included in this chapter, but are included in Appendix F.

Performance methods, including the absolute difference and the RMSE for kriging, *loess*, and R-*loess* are provided for both gradients and temperatures-at-depth of 4.5 km.

Table 8.1 provides a range of absolute differences between the estimation and the observed points of geothermal gradients, and the percentage of total points within each range for kriging interpolation, *loess*, and R-*loess*.

Geothermal Gradients			
Absolute Difference (˚C/km)	**Kriging Interpolation** Percentage of Total Points	***Loess*** Percentage of Total Points	***R - Loess*** Percentage of Total Points
Less than 1	40.4%	41.0%	38.5%
Between 1 and 5	51.1%	51.5%	52.0%
Between 5 and 10	7.7%	7.0%	8.5%
Greater than 10	0.7%	0.5%	1.0%

Table 8.1: Range of absolute differences between the estimation and the observed points of geothermal gradients, and percentage of total points within each range for all estimation methods.

From table 8.1, the absolute difference between the estimation and observed value of most points is within 5 ˚C/km for all estimation methods. R-*loess* has a higher percentage of total points with absolute differences greater than 5 ˚C/km. *Loess* reports the lowest percentage of total points with absolute difference greater than 5 ˚C/km.

Table 8.2 provides the root mean square error (RMSE) and the average absolute difference of geothermal gradients for all estimation methods.

Geothermal Gradients		
	RMSE (˚C/km)	Average Absolute Difference (˚C/km)
Kriging Interpolation	2.80	1.97
Loess (no outliers and no robustness)	2.71	1.92
R-Loess (outliers with robustness)	3.00	2.10

Table 8.2: Root mean square error (RMSE) and average absolute difference of geothermal gradients for all estimation methods.

From table 8.2, the RMSE and the average absolute difference for R-*loess* is higher than that of kriging and *loess*. *Loess* reports the lowest RMSE and average absolute difference. The RMSE and average absolute difference between kriging and *loess*, kriging and R-*loess*, and *loess* and R-*loess* is within 0.1 ˚C/km, 0.2 ˚C/km, and 0.3 ˚C/km, respectively.

Tables 8.3 provides a range of absolute differences between the estimation and the observed points of temperatures-at-depth of 4.5 km and the percentage of total points within each range for kriging interpolation, *loess*, and R-*loess*.

Temperatures-at-depth of 4.5 km			
Absolute Difference (˚C)	**Kriging Interpolation** Percentage of Total Points	***Loess*** Percentage of Total Points	***R - Loess*** Percentage of Total Points
Less than 5	47.3%	47.4%	45.4%
Between 5 and 10	23.7%	24.1%	24.0%
Between 10 and 15	12.5%	12.6%	12.2%
Greater than 15	16.6%	15.9%	18.5%

Table 8.3: Range of absolute differences between the estimation and the observed points of temperatures-at-depth of 4.5 km and percentage of total points within each range for all estimation methods.

From table 8.3, the absolute difference between the estimation and observed value of most points is within 5 ˚C for all estimation methods. R-*loess* has a higher percentage of total points with absolute differences greater than 15 ˚C. *Loess* reports the lowest percentage of total points with absolute difference greater than 15 ˚C.

Table 8.4 provides the root mean square error (RMSE) and the average absolute difference of temperatures-at-depth of 4.5 km for all estimation methods.

Temperatures-at-depth of 4.5 km		
	RMSE (˚C)	Average Absolute Difference (˚C)
Kriging Interpolation	8.38	12.24
Loess (no outliers and no robustness)	8.17	11.82
R-Loess (outliers with robustness)	9.05	13.46

Table 8.4: Root mean square error (RMSE) and average absolute difference of temperatures-at-depth of 4.5 km for all estimation methods.

From table 8.4, the RMSE and the average absolute difference of temperatures-at-depth of 4.5 km for R-*loess* is higher than that of kriging and *loess*. *Loess* reports the lowest RMSE and average absolute difference. The RMSE and average absolute difference between kriging and *loess*, kriging and R-*loess*, and *loess* and R-*loess* is within 0.4 ˚C, 1.2 ˚C, and 1.6 ˚C, respectively.

For both geothermal gradients and estimated temperature-at-depth of 4.5 km, *loess* reports the lowest RMSE and average absolute difference. The RMSE and the average absolute difference for R-*loess* is higher than that of kriging and *loess* for both geothermal variables.

8.4 Conclusions

In this chapter, the comparison of methods showed that R-*loess* and *loess* produce the most comparable estimates for geothermal gradients. However, the comparison plots provided in Figures 8.1 – 8.3 are not able to determine which of the three estimation methods is better. Therefore, the performance of each method was reported by providing the root mean square error (RMSE) and the absolute difference between the estimated value and the observed value of each method for both geothermal gradients and temperatures-at-depth of 4.5 km.

For geothermal gradients, the absolute difference of most points was within 5 ˚C/km for all estimation methods. For gradients, *loess* reported the lowest RMSE and average absolute difference, while R-*loess* reported the highest. This is expected because R-*loess* uses the dataset that contains outliers, whereas *loess* and kriging use the dataset that does not contain the global and local outliers identified in Chapter 5. The RMSE and average absolute difference between all estimation methods is within 0.3 ˚C/km of one another.

For temperatures-at-depth of 4.5 km, the absolute difference of most points was within 5 ˚C for all estimation methods. *Loess* reported the lowest RMSE and average absolute difference, while R-*loess* reported the highest for temperatures-at-depth of 4.5 km. The RMSE and average absolute difference between all estimation methods is within 1.6 ˚C of each other.

8.5 Recommendations for Future Work

More diagnostics techniques are needed to assess the quality and reliability of the kriging and *loess* models in estimating geothermal resources. Recommendations for future work include implementing diagnostic techniques to compare the performance of the kriging and the *loess* models. A measure of the quality and reliability in the model estimates can be obtained by implementing techniques such as leave-one-out cross-validation (LOOCV) for kriging geostatistical interpolation and bootstrap cross-validation for *loess*, among other techniques. Cross-validation refers to measuring the "generalization error" of the interpolation or regressive methods (Syed, 2011).

In addition, future work could encompass the testing of multivariate methods, including cokriging, to improve the characterization of geothermal resources by implementing geological and geophysical parameters into the models. Because the assessment of geothermal characteristics of a region involves more than one variable, cokriging allows for the estimation of the cross-correlation between several variables (Chilès and Delfiner, 1999; 2012). Variables of interest for the assessment of geothermal characteristics include variations in rock type, gravity and magnetic geophysical surveys, among others.

REFERENCES

Chilès, J. P. and Delfiner, P. (1999). Geostatistics: Modeling Spatial Uncertainty. Wiley Series in Probability and Statistics.

Chilès, J. P. and Delfiner, P. (2012). Geostatistics: Modeling Spatial Uncertainty, Second Edition. Wiley Series in Probability and Statistics.

Syed, A. R. (2011). A Review of Cross Validation and Adaptive Model Selection. Georgia State University Digital Archive@ GSU. M.S. Thesis. Department of Mathematics and Statistics. Georgia State University.

CHAPTER 9

THESIS CONCLUSIONS

Thesis Objectives and Organization

The first objective of this thesis was to compare methods for the assessment of geothermal characteristics of a geographic region and to compare their estimates of the uncertainty in the assessments. A second objective was to use those methods to provide an assessment of the geothermal characteristics of the New York - Pennsylvania region for which drill-log information is available.

This thesis has 5 major sections. Chapters 1 and 2 provided an introduction to the thesis and the analysis. Chapter 3 discussed methods for developing thermal resource characteristics. Chapters 4 and 5 provided an analysis of the geology and available well data for the Appalachian Basin of New York and Pennsylvania. Chapters 6 and 7 recommended methods for the assessment of geothermal characteristics for the Appalachian Basin of New York and Pennsylvania, as well as estimates of the uncertainty in the assessment. Chapter 8 provided a comparison of results from Chapters 6 and 7, and discussed future work. What follows are the main results and conclusions from Chapters 3 – 8.

1. Chapters 3 - 4: Proposed Methodology and Geological Review of New York and Pennsylvania

Chapter 3 provided a detailed description on the equations and methodology used for the characterization of geothermal resources. The chapter discussed bottom-hole temperature corrections and equations used to describe geothermal gradient, average thermal conductivity,

surface heat flow, and temperature-at-depth. The methodology in Chapter 3 described work developed in collaboration with the Geothermal Lab at Southern Methodist University (SMU) and graduate students at the Earth Energy Institute in Cornell University: Elaina N. Shope, George R. Stutz, and Timothy Reber (Shope et al., 2012; Stutz et al., 2012; Shope, 2012; Stutz, 2012; Reber, 2013).

Chapter 4 provided a geological and geophysical review of the Appalachian Basin of New York and Pennsylvania. Specifically, the chapter discussed bedrock geology, basin structure, and geophysical characteristics of the New York and Pennsylvania region. Variations in rock types, geological formations and structures, and gravity and magnetic geophysical anomalies were used in Chapters 6 and 7 to explain geothermal anomalies in the Appalachian Basin of New York and Pennsylvania.

2. Chapter 5: Descriptive Analysis of Well Data from New York and Pennsylvania

Chapter 5 provided a detailed description on the sources and statistical characteristics of the well data collected in the Appalachian Basin of New York and Pennsylvania. The chapter showed how exploratory data analysis (EDA), including graphical techniques such as the histogram and boxplot, can be used to quantitatively characterize well data.

The chapter also developed and evaluated statistical methods for the detection and treatment of anomalies or outlying values within large datasets. Outlying values in geothermal gradients arise from the known problems behind the collected bottom-hole temperature (BHT) measurements. From the discussion in Chapter 3, it is possible that BHT's obtained from well logs may not represent equilibrated temperatures. Surface heat flow outliers arise from the

generalizations behind the thermal conductivity model used by Blackwell et al. (2007), Stutz et al. (2012), and Stutz (2012). Geological heterogeneities, including certain formations and structures that allow for convective upward or downward flow of fluids contained in fractures, might also be responsible for the outlier classification of an observation. Besides the measurement and reporting errors in the temperature-depth dataset and geological heterogeneities of the region, varying data densities across the area can also determine the classification of an observation as an outlier.

Two types of outliers were analyzed in this thesis: global and local outliers. As part of the global outliers, the methods explored include the boxplot rule, asymmetric boxplot rule, and median with average deviation rule. While an observation might be classified as a global outlier, when tested within its surrounding values that observation might not be classified as a local outlier. For local outliers, various grid sizes were investigated in the areal domain of latitude and longitude to test the global outliers within their surrounding values. The ideal grid size for this analysis was found to be 32 km. The 32 km grid size captured the highest number of local outliers.

The asymmetrical boxplot rule was chosen to remove outliers in both the global and local study because of the asymmetrical nature in the distribution of the data, as well as the effectiveness in the capture of upper bound values. From the collected data, a total number of 80 points were labeled as both global and local outliers in the geothermal gradient study and an additional 73 points in the surface heat flow study. After the 153 geothermal gradient and surface heat flow outliers were removed from the 7,969 dataset, a total of 7,816 data points remained for the spatial interpolation and regression analyses in Chapters 6 and 7, respectively.

Chapter 5 took a statistical approach to outlier classification for the geothermal gradient and surface heat flow dataset in New York and Pennsylvania. Given the known uncertainties behind the temperature-depth dataset, the generalizations involved in the thermal conductivity model, and varying data densities across the region, further studies are needed to determine the physical causes of outlier classification in certain observations.

3. Chapter 6: Interpolation Methods

In Chapter 6, kriging geostatistical interpolator was applied to provide estimates of geothermal resources for the Appalachian Basin of New York and Pennsylvania, and estimates of the uncertainty in the assessment. The geothermal variables of interest for kriging interpolation included geothermal gradient, surface heat flow, estimated temperatures at various depths, and estimated depths to various isotherms.

Based on our kriging interpolation, modest gradients, greater than 25 ˚C/km and with a precision within 1.0 ˚C/km, are recorded in central and southwestern New York. In addition, the eastern border of the Appalachian Basin in Pennsylvania and western Pennsylvania exhibit modest gradients with a precision within 1.0 ˚C/km.

Modest heat flow values, greater than 55 mW/m^2 and with a precision within 2.0 mW/m^2, are recorded in central and southwestern New York, and in the eastern border of the Appalachian Basin in Pennsylvania.

From our kriging analysis of estimated temperatures at depth of 3 km, central New York reports estimated temperatures that exceed 80 ˚C with a precision in the estimates within 2 ˚C.

Areas that achieve temperatures greater than 80 ˚C are favorable for direct thermal use for district heating systems and/or combined heat and power applications. In north central Pennsylvania, Potter County exceeds temperatures of 100 ˚C with a precision within 2 ˚C. Several north central and south central counties in Pennsylvania exceed temperatures of 90 ˚C with a precision within 2 ˚C.

From our kriging analysis of estimated temperatures at depth of 4.5 km, several counties in central and southwestern New York report estimated temperatures at depth of 4.5 km that exceed 100 ˚C with a precision in the estimates within 4 ˚C. North central and south central counties in Pennsylvania report estimated temperatures that exceed 140 ˚C with a precision within 4 ˚C.

In central New York, our analysis reports estimated temperatures at depth of 6 km that exceed 130 ˚C with a precision in the estimates within 4 ˚C. In north central Pennsylvania, Potter County exceeds temperatures of 200 ˚C with a precision within 5 ˚C. Several north central and south central counties in Pennsylvania exceed temperatures of 180 ˚C with a precision within 4 ˚C. In counties of western Pennsylvania, estimated temperatures at 6 km exceed 150 ˚C with a precision in the estimates within 6 ˚C.

From our kriging analysis of estimated depths to the 80 ˚C isotherm, the counties of Tompkins and Chemung in central New York reach temperatures of 80 ˚C within a depth of 3 km. The precision in the estimates in Tompkins and Chemung counties is within 200 meters. In north central and south central Pennsylvania, several counties report temperatures of 80 ˚C within a depth of 3 km. The precision in the estimates in these regions is also within 200 meters.

Northwestern Pennsylvania can also reach temperatures of 80 ˚C within a depth of 3 km and a precision within 200 meters.

For most counties in our study area, estimated depths to the 150˚C isotherm can surpass 7 km, which exceed today's maximum economical drilling depth of 6 km. However, several counties in the easternmost border of the Appalachian Basin in Pennsylvania record estimated depths of 5.5 km to the 150 ˚C isotherm with precision in the estimates within 800 meters.

The use of cross sections allowed for the evaluation of the kriging estimates and the precision of the kriging estimates for various geothermal variables. The 95% confidence bands were used to determine statistical significance in the variation of the estimates. Areas where the confidence bands did not overlap were considered to be statistically significant. In some regions of the two states the analysis was unable to resolve differences in the estimates of geothermal gradient and other variables.

4. Chapter 7: Locally Weighted Regression

Chapter 7 investigated the use of local regression methods with geothermal data and the treatment of outliers. *Loess* was tested without and with outliers based on global and local outlier detection methods, developed in Chapter 5. This allowed evaluation of *loess*'s robustness against outliers. For the dataset that contains outliers, a robust version of *loess* that down-weights outliers is employed, which we call *R-loess*. *Loess* was chosen to model geothermal gradients and the estimated temperatures (˚C) at depth of 4.5 km.

Based on our *loess* and R-*loess* analysis of geothermal gradients, both *loess* outputs reported similar estimates and standard error estimates for gradients. Modest gradients, greater than 25 ˚C/km and with a precision within 2.5 ˚C/km, are recorded in central and southwestern New York, in the eastern border of the Appalachian Basin in Pennsylvania, and in western Pennsylvania.

From our *loess* and R-*loess* analysis of temperatures-at-depth of 4.5 km, the average estimated temperature (˚C) in central and southwestern New York exceed 100 ˚C with a precision in the estimates within 8 ˚C. North central and south central Pennsylvania report estimated temperatures that exceed 140 ˚C with a precision within 8 ˚C.

Differences in the *loess* and R-*loess* outputs occur along the boundaries of the study area. Generally, the boundaries of the Appalachian Basin in New York and Pennsylvania have low data densities; therefore, both *loess* outputs along the boundaries are unreliable. Other differences where R-*loess* produces higher estimates over *loess* in a "bulls-eye" pattern were reported. In some areas, R-*loess* estimated high values where observations classified as global and local outlier were located. Outlier detection and treatment techniques might be more efficient at reducing the influence that outlying values have on interpolation and regression techniques.

In some regions of the two states, the cross section analysis was unable to resolve differences between *loess* and R-*loess* in the estimates of geothermal gradients and estimated temperatures-at-depth of 4.5 km.

5. Chapter 8: Comparison of Kriging Geostatistical Interpolator and Locally Weighted Regression (*Loess*)

Chapter 8 provided a comparison of the estimates reported by kriging interpolation and locally weighted regression (*loess*). In addition, Chapter 8 reported the performance of each method by providing the absolute difference between the estimated value and the observed value, and the root mean square error of each method.

The comparison of methods showed that R-*loess* and *loess* produce the most comparable estimates for geothermal gradients. However, the comparison plots of kriging and *loess*, kriging and R-*loess*, and *loess* and R-*loess* were not able to determine which of the three methods is better for estimating geothermal resources.

Performance measures reported that the absolute difference of most points for geothermal gradients was within 5 ˚C/km for all estimation methods. For gradients, *loess* reported the lowest RMSE and average absolute difference, while R-*loess* reported the highest. This is expected because R-*loess* uses the dataset that contains outliers, whereas *loess* and kriging use the dataset that does not contain the global and local outliers identified in Chapter 5. The RMSE and average absolute difference between all estimation methods was within 0.3 ˚C/km of one another.

For temperatures-at-depth of 4.5 km, the absolute difference of most points was within 5 ˚C for all estimation methods. *Loess* reported the lowest RMSE and average absolute difference, while R-*loess* reported the highest for temperatures-at-depth of 4.5 km. The RMSE and average absolute difference between all estimation methods was within 1.6 ˚C of each other.

More diagnostics techniques are needed to assess the quality and reliability of the kriging and *loess* models in estimating geothermal resources. Such diagnostic techniques can include leave-one-out cross-validation (LOOCV) for kriging geostatistical interpolation and bootstrap cross-validation for *loess*, among other techniques. In addition, future work could encompass the testing of multivariate methods, including cokriging, to improve the characterization of geothermal resources by implementing geological and geophysical parameters into the models.

APPENDIX A

DATASET FOR NEW YORK STATE AND PENNSYLVANIA

API	Decimal Longitude (WGS84)	Decimal Latitude (WGS84)	Harrison Corrected BHT (˚C)	Well Depth (m)	Harrison Corrected Geothermal Gradient (˚C/km)	Surface Heat Flow (mW/m²)	Estimated Temperature (˚C) at Depth of 3 km	Estimated Temperature (˚C) at Depth of 4.5 km	Estimated Temperature (˚C) at Depth of 6 km	Estimated Depth (m) to 80 ˚C	Estimated Depth (m) to 150 ˚C
31003000050000	-77.86260	42.0421	41.9	1466.1	22.4	46.1	66.1	89.2	111.4	4396.0	10074.0
31003000060000	-77.87790	42.0384	46.5	1533.8	24.5	51.1	72.1	97.5	121.6	4013.0	9483.0
31003000070000	-77.85200	42.0389	59.3	1533.8	32.8	68.8	93.8	127.0	157.9	2863.0	7468.0
31003000090000	-77.84080	42.0486	47.5	1521.3	25.3	52.7	74.2	100.2	125.0	3878.0	9266.0
31003000100000	-77.84860	42.0450	55.0	1492.6	30.8	64.1	88.1	119.2	148.4	3115.0	7945.0
31003000120000	-77.81520	42.0603	44.8	1526.4	23.5	49.0	69.4	93.9	117.2	4195.0	9768.0
31003000130000	-77.82260	42.0607	49.8	1530.4	26.7	55.5	77.7	105.1	130.9	3655.0	8898.0
31003000140000	-77.76410	42.0915	50.3	1568.5	26.3	54.7	77.0	104.0	129.5	3683.0	8944.0
31003000150000	-77.79220	42.0780	45.8	1467.9	25.1	52.0	73.1	98.8	123.3	3956.0	9393.0
31003000160000	-77.80130	42.0787	52.3	1506.0	28.8	60.3	83.2	112.6	140.2	3394.0	8448.0
31003000170000	-77.77920	42.0903	44.5	1503.6	23.6	49.2	69.7	94.3	117.7	4172.0	9733.0
31003000180000	-77.80670	42.0818	48.2	1434.1	27.3	56.9	78.8	106.6	133.0	3642.0	8875.0
31003000190000	-77.80020	42.0819	49.3	1435.0	28.1	58.3	80.6	109.1	136.0	3525.0	8677.0
31003000440000	-77.83360	42.0457	50.2	1616.1	25.5	53.3	75.3	101.7	126.7	3786.0	9115.0
31003000840000	-77.79160	42.0856	49.7	1468.2	27.7	57.4	79.8	107.9	134.5	3547.0	8714.0
31003002470000	-78.14550	42.1194	52.4	1270.7	34.1	71.0	94.6	128.5	160.0	2935.0	7605.0
31003002560000	-77.79050	42.0779	46.5	1481.6	25.3	52.7	73.9	100.0	124.8	3911.0	9320.0
31003002580000	-77.88870	42.0311	50.8	1463.3	28.5	59.4	82.0	111.1	138.3	3443.0	8534.0
31003002590000	-77.86150	42.0492	47.8	1543.8	25.1	52.4	73.8	99.8	124.4	3901.0	9304.0
31003002760000	-77.84230	42.0540	47.3	1505.7	25.5	53.0	74.5	100.7	125.6	3868.0	9250.0
31003003710001	-77.93870	42.0026	50.4	1478.3	28.0	58.1	80.7	109.2	136.0	3506.0	8642.0
31003003790001	-77.93700	42.0185	52.6	1383.8	31.5	64.5	88.4	119.6	148.8	3101.0	7918.0
31003003810001	-77.95930	42.0038	52.9	1508.2	29.1	60.9	84.0	113.7	141.6	3336.0	8344.0
31003003830000	-77.93200	42.0158	50.0	1546.3	26.5	55.4	77.5	104.8	130.7	3681.0	8941.0
31003003970000	-77.83450	42.0534	49.6	1511.2	26.9	55.9	78.1	105.6	131.6	3641.0	8874.0
31003003980000	-77.89450	42.0420	49.1	1513.0	26.5	55.1	77.2	104.3	130.0	3700.0	8973.0
31003003990000	-77.88360	42.0393	46.9	1518.2	25.0	52.0	73.3	99.1	123.6	3938.0	9364.0
31003004020000	-77.80610	42.0684	49.2	1518.5	26.4	55.2	77.1	104.3	130.0	3713.0	8994.0
31003004120000	-77.80370	42.0802	48.7	1430.4	27.8	57.6	79.7	107.9	134.5	3578.0	8767.0

31003004350000	-77.84870	42.0412	54.3	1532.5	29.6	62.5	85.6	116.0	144.4	3300.0	8281.0
31003004360000	-77.86350	42.0427	51.1	1492.6	28.2	58.4	81.2	109.9	136.8	3459.0	8562.0
31003004370000	-77.87500	42.0426	46.4	1516.4	24.6	51.4	72.4	97.9	122.2	4001.0	9465.0
31003004400000	-77.89460	42.0366	47.6	1525.2	25.3	52.7	74.1	100.2	125.0	3887.0	9281.0
31003004410000	-77.85580	42.0438	49.3	1530.4	26.3	54.5	76.6	103.5	129.0	3705.0	8981.0
31003004440000	-77.84840	42.0466	49.4	1494.4	27.1	55.9	78.2	105.8	131.8	3620.0	8839.0
31003004450000	-77.84830	42.0495	48.9	1498.4	26.7	54.9	77.1	104.2	129.8	3677.0	8934.0
31003004460000	-77.85850	42.0379	53.2	1533.5	28.8	60.0	83.3	112.7	140.3	3342.0	8356.0
31003004460000	-77.85850	42.0379	52.1	1531.9	28.1	58.5	81.5	110.2	137.2	3443.0	8533.0
31003004460000	-77.85850	42.0379	53.7	1530.1	29.2	60.8	84.3	114.0	141.9	3288.0	8259.0
31003004470000	-77.85420	42.0361	49.2	1521.3	26.4	55.0	77.0	104.2	129.8	3709.0	8989.0
31003004710001	-77.96930	42.0061	53.9	1444.8	31.1	64.5	88.3	119.5	148.8	3121.0	7955.0
31003010020000	-77.87950	42.0356	46.0	1536.2	24.1	50.2	71.1	96.1	119.9	4070.0	9573.0
31003018050000	-77.86440	42.0362	49.6	1509.1	26.9	56.0	78.2	105.8	131.8	3642.0	8876.0
31003018050000	-77.86440	42.0362	50.2	1508.8	27.3	56.8	79.1	107.0	133.4	3587.0	8782.0
31003023170000	-77.79470	42.0841	47.5	1471.0	26.2	54.5	76.1	102.9	128.3	3784.0	9113.0
31003040250000	-78.21590	42.3462	35.2	1014.7	25.8	53.6	72.1	98.3	123.2	4270.0	9883.0
31003042480000	-78.15990	42.4705	70.8	2144.9	28.8	57.6	87.1	116.0	143.2	2806.0	7357.0
31003042480000	-78.15990	42.4705	66.3	2145.5	26.7	55.7	81.9	109.7	135.9	3213.0	8123.0
31003046730000	-77.84650	42.0402	48.5	1558.8	25.3	53.4	74.7	101.1	126.2	3889.0	9284.0
31003048330000	-78.12150	42.0628	48.6	1467.9	27.0	56.1	78.1	105.7	131.7	3668.0	8920.0
31003080340000	-77.87090	42.1319	57.4	1508.8	32.1	66.7	91.5	123.8	153.9	2944.0	7622.0
31003091940000	-77.96490	42.4332	35.0	1042.7	24.9	51.9	70.2	95.7	120.0	4368.0	10031.0
31003093300000	-77.84670	42.1198	46.2	1504.8	24.7	51.5	72.6	98.2	122.5	3991.0	9448.0
31003093560000	-77.86770	42.0422	48.4	1503.3	26.2	54.6	76.4	103.3	128.8	3751.0	9058.0
31003093570000	-77.84580	42.0501	47.0	1527.1	24.9	51.9	73.1	98.9	123.3	3944.0	9373.0
31003117620000	-78.01250	42.1600	40.4	1361.9	23.0	48.0	67.4	91.3	114.3	4389.0	10063.0
31003117620000	-78.01250	42.1600	40.1	1361.9	22.9	47.6	67.0	90.8	113.6	4416.0	10104.0
31003119780000	-78.28110	42.3124	38.4	1218.3	24.1	50.2	69.3	94.1	117.8	4327.0	9969.0
31003135320000	-77.86370	42.0386	46.4	1523.1	24.6	51.3	72.3	97.8	122.0	4008.0	9475.0
31003135330000	-77.85520	42.0416	46.5	1528.3	24.5	51.1	72.2	97.5	121.7	4003.0	9468.0
31003135340000	-77.85910	42.0404	38.1	1527.1	19.1	39.7	58.1	78.4	98.1	4991.0	10922.0
31003135490000	-77.81960	42.3491	50.8	1621.5	25.8	56.4	77.1	104.7	130.8	3903.0	9307.0
31003135490000	-77.81960	42.3491	39.6	1227.1	24.9	50.9	70.7	95.9	119.8	4170.0	9729.0
31003135490000	-77.81960	42.3491	26.5	906.8	19.3	37.0	54.3	73.4	92.2	5213.0	11219.0

31003136840000	-77.98481	42.4409	32.7	958.9	24.8	43.4	69.4	91.5	112.8	3662.0	8909.0
31003136840000	-77.98480	42.4409	32.7	959.5	24.8	51.5	69.2	94.5	118.6	4475.0	10191.0
31003142530000	-78.14980	42.4301	23.0	709.0	19.8	41.0	56.2	77.1	97.4	5391.0	11451.0
31003144850000	-77.79820	42.0867	56.2	1500.8	31.4	66.0	90.0	121.9	151.7	3061.0	7844.0
31003144850000	-77.79820	42.0867	56.2	1497.5	31.5	66.2	90.2	122.2	152.1	3051.0	7825.0
31003145700000	-77.81560	42.0763	45.5	1490.5	24.5	51.0	71.9	97.2	121.3	4040.0	9526.0
31003145710000	-77.81720	42.0857	44.6	1458.8	24.4	51.2	71.6	97.0	121.2	4105.0	9629.0
31003145710000	-77.81720	42.0857	49.0	1458.5	27.5	57.6	79.5	107.7	134.3	3634.0	8862.0
31003145710000	-77.81720	42.0857	47.3	1456.0	26.3	55.3	76.6	103.7	129.4	3802.0	9142.0
31003146100000	-77.79350	42.0894	49.7	1514.6	26.9	55.9	78.1	105.6	131.5	3645.0	8880.0
31003146650000	-77.81030	42.0790	43.7	1431.3	24.3	50.2	70.7	95.7	119.5	4118.0	9648.0
31003148680000	-77.78980	42.0889	52.8	1500.8	29.2	60.8	84.1	113.7	141.6	3316.0	8309.0
31003150540000	-77.84280	42.0642	45.1	1507.9	24.0	50.2	70.8	95.7	119.5	4128.0	9665.0
31003150540000	-77.84280	42.0642	43.5	1507.2	22.9	47.9	67.9	91.8	114.8	4317.0	9954.0
31003152160000	-77.82750	42.0723	48.5	1508.8	26.2	54.6	76.3	103.3	128.8	3760.0	9074.0
31003152480000	-77.85960	42.0453	47.5	1524.0	25.3	52.3	73.9	99.8	124.4	3872.0	9256.0
31003152530000	-77.87690	42.0338	48.4	1498.7	26.3	54.5	76.4	103.3	128.8	3743.0	9044.0
31003153690000	-77.86570	42.0448	46.8	1552.4	24.3	50.9	71.9	97.2	121.3	4037.0	9522.0
31003153690000	-77.86570	42.0448	48.4	1552.4	25.4	53.2	74.7	101.0	125.9	3861.0	9239.0
31003153690000	-77.86570	42.0448	46.2	1552.4	24.0	50.2	71.0	95.9	119.8	4097.0	9616.0
31003154000000	-77.76780	42.1090	51.5	1533.5	27.7	57.9	80.6	109.0	135.8	3507.0	8645.0
31003155120000	-78.24500	42.3857	42.5	1331.4	25.2	52.5	72.7	98.6	123.2	4059.0	9555.0
31003157380000	-78.22420	42.2633	32.6	1069.9	22.0	45.8	63.3	86.3	108.4	4781.0	10631.0
31003159420000	-77.90110	42.0269	45.0	1351.2	26.6	55.2	76.3	103.4	129.1	3812.0	9159.0
31003162020000	-78.16890	42.4276	18.6	749.8	12.9	22.6	39.4	51.2	63.6	6474.0	12739.0
31003162030000	-77.78360	42.2570	41.7	1217.4	26.9	55.9	76.1	103.4	129.3	3914.0	9324.0
31003162030000	-77.78360	42.2570	37.3	1217.4	23.2	48.3	67.0	91.1	114.1	4473.0	10187.0
31003162030000	-77.78360	42.2570	38.8	1210.1	24.7	51.2	70.5	95.8	119.9	4248.0	9850.0
31003162040000	-77.83120	42.0687	47.1	1480.7	25.7	53.7	75.0	101.5	126.6	3860.0	9237.0
31003162050000	-77.83710	42.0653	45.9	1431.3	25.8	53.2	74.5	100.8	125.7	3863.0	9242.0
31003162060000	-77.82100	42.0743	51.9	1511.8	28.4	59.1	82.0	110.9	138.1	3434.0	8518.0
31003162070000	-77.84120	42.0609	48.3	1489.9	26.4	54.9	76.7	103.7	129.3	3740.0	9040.0
31003162080000	-77.78180	42.1009	49.4	1538.6	26.2	54.8	76.7	103.8	129.3	3729.0	9022.0
31003162270000	-78.04000	42.2417	29.1	1021.1	19.7	41.0	57.5	78.4	98.7	5182.0	11178.0
31003162380000	-78.17901	42.4210	39.3	1293.9	23.4	41.1	66.2	87.1	107.4	3935.0	9359.0

31003162380000	-78.17900	42.4210	39.3	1294.1	23.4	48.9	68.1	92.4	115.6	4379.0	10048.0
31003162390000	-77.88780	42.2122	39.6	1270.4	24.1	49.9	69.3	94.1	117.7	4284.0	9904.0
31003163420000	-77.75600	42.1106	46.3	1507.5	24.7	51.5	72.5	98.1	122.4	3990.0	9447.0
31003165530000	-78.19550	42.3934	28.2	914.4	21.0	43.7	60.1	82.1	103.4	5059.0	11014.0
31003165570000	-78.01709	42.1720	45.9	1243.6	29.7	52.1	84.9	112.7	137.9	2758.0	6823.0
31003165570000	-78.01710	42.1720	41.5	1243.6	26.1	54.2	74.3	100.9	126.1	3994.0	9453.0
31003171060000	-77.77450	42.6660	34.0	1118.3	22.4	46.6	64.5	87.8	110.1	4685.0	10495.0
31003177310000	-77.85020	42.0549	47.9	1508.8	25.8	53.5	75.2	101.7	126.8	3806.0	9149.0
31003177320000	-77.78290	42.0892	44.1	1467.6	23.9	49.5	70.1	94.8	118.3	4141.0	9685.0
31003177540000	-77.87070	42.0358	44.2	1470.7	23.9	49.7	70.2	94.9	118.5	4147.0	9694.0
31003177550000	-77.78220	42.0948	49.7	1514.3	26.9	55.5	77.9	105.3	131.1	3636.0	8866.0
31003177690000	-77.79440	42.0966	47.5	1517.6	25.4	53.3	74.5	100.8	125.8	3910.0	9318.0
31003178300000	-77.85500	42.0549	45.9	1527.4	24.2	50.5	71.3	96.4	120.3	4071.0	9575.0
31003178310000	-77.82290	42.0713	46.2	1506.0	24.7	51.2	72.4	97.9	122.1	3982.0	9434.0
31003178320000	-77.84600	42.0529	46.0	1538.9	24.1	50.3	71.1	96.1	120.0	4080.0	9590.0
31003186510000	-78.04790	42.4049	42.1	1075.0	30.8	64.2	84.7	115.4	144.2	3549.0	8717.0
31003188490000	-77.87950	42.2165	37.8	1264.9	22.8	47.5	66.3	90.0	112.7	4499.0	10227.0
31003189520000	-78.02740	42.1677	41.3	1276.2	25.3	52.7	72.6	98.6	123.2	4085.0	9598.0
31003190940000	-77.77030	42.3455	36.7	1219.5	22.7	47.3	65.9	89.5	112.1	4546.0	10295.0
31003190960000	-77.99670	42.1714	37.9	1182.6	24.5	50.6	69.7	94.8	118.6	4298.0	9926.0
31003199650000	-78.06720	42.0797	45.1	1405.4	25.7	53.4	74.3	100.7	125.7	3917.0	9330.0
31003199700000	-77.99460	42.1761	38.1	1197.3	24.3	50.9	69.8	94.9	118.9	4327.0	9969.0
31003200230000	-78.11700	42.2115	52.0	1597.2	26.9	56.1	78.9	106.5	132.6	3566.0	8746.0
31003200630000	-78.08830	42.0725	45.7	1407.9	26.1	54.2	75.3	102.0	127.3	3858.0	9234.0
31003201160000	-77.92200	42.0138	45.6	1500.5	24.4	50.8	71.7	96.9	120.9	4045.0	9534.0
31003201280000	-78.06460	42.4145	26.7	1043.0	16.9	35.2	50.9	69.3	87.5	5616.0	11735.0
31003201550000	-77.93510	42.0085	68.8	1533.8	39.0	81.4	109.6	148.4	184.2	2232.0	6172.0
31003202380000	-77.99940	42.1780	37.3	1174.7	24.1	50.0	68.9	93.6	117.3	4372.0	10037.0
31003203480000	-77.89400	42.2165	43.2	1342.6	25.5	53.1	73.5	99.7	124.6	4004.0	9469.0
31003207140000	-77.88710	42.2204	40.0	1308.5	23.7	49.4	68.9	93.4	116.9	4316.0	9952.0
31003207170000	-78.05910	42.0680	40.5	1490.5	21.1	44.0	63.2	85.5	106.9	4626.0	10411.0
31003208690000	-77.87730	42.2237	37.6	1241.5	23.0	47.9	66.6	90.5	113.3	4485.0	10205.0
31003208700000	-77.90790	42.2385	38.3	1254.3	23.3	48.4	67.5	91.6	114.6	4417.0	10105.0
31003208770000	-77.79470	42.0871	50.6	1496.3	27.8	57.8	80.3	108.7	135.4	3521.0	8669.0
31003208780000	-77.86770	42.0384	43.9	1450.9	24.1	49.4	70.1	94.8	118.3	4123.0	9656.0

31003208790000	-77.80170	42.0844	44.4	1441.4	24.6	51.4	71.9	97.3	121.6	4085.0	9596.0
31003208810000	-77.83600	42.0493	46.3	1513.0	24.7	50.5	71.9	97.1	121.0	3974.0	9422.0
31003208820000	-77.84890	42.0439	51.4	1521.4	27.9	58.5	81.0	109.6	136.6	3516.0	8660.0
31003208820000	-77.84890	42.0439	54.2	1520.0	29.7	62.3	85.7	116.0	144.5	3261.0	8210.0
31003208820000	-77.84890	42.0439	50.4	1491.7	27.7	57.9	80.3	108.6	135.4	3547.0	8715.0
31003208830000	-77.86770	42.0428	46.2	1503.3	24.8	51.5	72.6	98.2	122.5	3987.0	9442.0
31003208840000	-77.82500	42.0752	46.2	1503.0	24.8	51.7	72.7	98.3	122.7	3999.0	9461.0
31003208850000	-77.85890	42.0372	46.9	1564.5	24.2	50.7	71.7	96.9	120.9	4043.0	9531.0
31003208860000	-77.85060	42.0518	47.7	1535.3	25.2	52.5	73.9	99.9	124.6	3891.0	9287.0
31003208870000	-77.84320	42.0453	46.2	1502.1	24.8	51.1	72.4	97.7	121.9	3975.0	9423.0
31003208880000	-77.81430	42.0787	42.9	1408.2	24.1	49.1	69.7	94.2	117.6	4154.0	9705.0
31003211130000	-77.93490	42.2355	55.7	1828.8	25.6	53.2	76.7	103.2	128.3	3614.0	8828.0
31003211150000	-77.82530	42.3590	48.3	1589.8	24.7	51.5	73.0	98.6	123.0	3933.0	9355.0
31003211480000	-77.95380	42.0135	43.8	1441.1	24.2	50.3	70.7	95.7	119.5	4130.0	9667.0
31003211680000	-77.99730	42.1820	34.8	1154.0	22.3	46.3	64.4	87.6	109.9	4661.0	10461.0
31003217720000	-78.00450	42.1777	32.2	1210.4	19.1	39.9	57.0	77.4	97.3	5162.0	11152.0
31003217780000	-77.99910	42.1856	37.1	1158.9	24.2	50.4	69.2	94.1	117.9	4363.0	10024.0
31003217810000	-77.99070	42.1845	31.1	1130.8	19.6	40.6	57.6	78.3	98.5	5131.0	11111.0
31003218130000	-77.98220	42.1864	30.9	1153.4	19.0	39.5	56.3	76.5	96.3	5222.0	11231.0
31003218550000	-78.30390	42.0426	46.5	1430.4	26.2	54.5	75.8	102.7	128.1	3814.0	9161.0
31003218750000	-77.95250	42.0005	46.0	1485.3	24.9	51.9	72.9	98.6	123.0	3973.0	9420.0
31003218810000	-78.00220	42.1893	31.9	1146.7	20.0	41.2	58.4	79.4	99.8	5053.0	11005.0
31003218820000	-77.98530	42.1750	32.5	1150.0	20.4	42.5	59.9	81.4	102.3	4978.0	10904.0
31003218920000	-78.30390	42.0423	45.6	1448.4	25.3	52.7	73.6	99.7	124.4	3955.0	9392.0
31003219970000	-78.27070	42.0570	41.2	1501.1	21.4	44.7	64.1	86.6	108.3	4566.0	10324.0
31003221260000	-78.23840	42.0770	41.1	1447.8	22.2	46.2	65.8	89.0	111.2	4467.0	10179.0
31003222260000	-77.76470	42.2779	36.2	1177.8	23.1	48.0	66.5	90.4	113.3	4523.0	10261.0
31003224960000	-77.79190	42.1357	18.3	618.4	15.1	31.0	45.0	61.8	78.7	6036.0	12241.0
31003225810000	-77.82530	42.1132	45.0	1493.5	24.1	53.2	72.2	98.4	123.2	4302.0	9932.0
31003225810000	-77.82530	42.1132	23.3	922.0	15.6	30.9	46.2	62.8	79.4	5860.0	12032.0
31003226050000	-78.00530	42.1911	35.5	1163.7	22.7	47.3	65.6	89.2	111.8	4591.0	10361.0
31003233170000	-77.81880	42.1305	44.2	1522.5	23.1	48.4	68.6	92.8	115.9	4263.0	9873.0
31003235310000	-78.01790	42.3704	30.9	1072.3	20.5	42.6	59.5	81.1	102.0	5030.0	10975.0
31003241810000	-77.80250	42.0282	21.3	667.8	18.4	38.1	52.8	72.5	91.7	5598.0	11713.0
31003243950000	-77.77280	42.0199	23.6	821.1	17.8	36.9	52.0	71.2	90.1	5602.0	11717.0

31003250560001	-78.19000	42.4559	66.3	2280.8	25.1	52.3	78.2	104.5	129.4	3395.0	8449.0
31003252860000	-77.86640	42.0080	49.6	1511.2	26.9	56.0	78.2	105.7	131.8	3647.0	8885.0
31003252860000	-77.86640	42.0080	51.7	1496.6	28.5	59.3	82.2	111.2	138.5	3414.0	8483.0
31003253450001	-77.79540	42.1093	23.1	774.2	18.2	39.0	53.7	73.8	93.3	5597.0	11712.0
31003637040001	-77.96930	42.0035	52.5	1515.2	28.7	60.0	82.9	112.2	139.8	3398.0	8455.0
31003637050000	-77.97430	42.0035	49.2	1472.2	27.3	56.8	78.9	106.8	133.1	3613.0	8827.0
31003638610000	-77.94900	42.0043	42.7	1484.4	22.7	47.2	67.2	90.8	113.5	4354.0	10011.0
31003664230001	-77.95900	42.0113	53.2	1388.4	31.9	65.7	89.6	121.3	151.0	3067.0	7855.0
31003664250001	-77.96420	42.0067	51.2	1453.0	29.0	60.3	83.2	112.6	140.3	3380.0	8424.0
31003664260002	-77.95930	42.0060	52.3	1450.5	29.8	61.7	85.1	115.1	143.3	3269.0	8224.0
31003664280001	-77.94830	42.0124	52.1	1483.5	29.1	60.6	83.6	113.1	140.9	3361.0	8390.0
31003664290001	-77.94370	42.0160	48.9	1491.4	26.7	56.1	77.8	105.3	131.4	3712.0	8993.0
31007050870000	-75.94751	42.3235	53.3	2180.2	20.3	41.9	66.2	88.2	108.8	4023.0	9499.0
31007050870000	-75.94750	42.3235	72.5	2933.7	21.6	47.9	71.6	95.9	119.1	3811.0	9158.0
31007050870100	-75.94751	42.3235	72.5	2934.0	21.6	45.6	71.5	94.9	117.1	3634.0	8914.0
31007083420000	-75.89020	42.3978	49.8	1831.9	22.3	48.4	68.7	93.0	116.2	4194.0	9767.0
31007214570000	-76.10380	42.0827	44.7	1466.1	24.3	53.0	72.6	98.8	123.6	4085.0	9597.0
31007214630000	-77.74150	42.0724	55.0	1644.7	28.0	60.9	83.1	113.0	141.0	3376.0	8415.0
31007214990000	-75.84150	42.1409	48.8	1589.5	25.1	54.4	75.0	101.9	127.4	3864.0	9244.0
31007215540000	-75.82360	42.1295	43.1	1521.6	22.4	47.9	67.2	91.2	114.2	4357.0	10015.0
31007215680000	-75.83280	42.1363	49.0	1602.0	24.9	53.3	75.1	101.6	126.8	3728.0	9019.0
31007217130000	-75.78440	42.1468	45.3	1521.0	23.9	51.6	71.4	97.0	121.3	4110.0	9636.0
31007228070000	-75.74860	42.1667	34.2	1526.4	16.5	36.0	52.4	71.0	89.4	5490.0	11577.0
31007228560000	-75.73550	42.1700	33.5	1510.9	16.2	35.1	51.3	69.6	87.7	5556.0	11660.0
31007229060000	-75.73190	42.1641	38.3	1596.2	18.4	40.0	57.4	77.9	97.8	5092.0	11058.0
31007229840000	-75.67031	42.1782	87.8	3009.6	26.2	56.3	85.4	117.6	144.9	2751.0	6903.0
31007229840000	-75.67030	42.1782	87.7	2993.4	26.3	57.2	85.8	114.9	142.4	2677.0	7389.0
31007229840100	-75.67031	42.1782	86.6	3000.1	25.9	55.7	84.5	116.3	143.3	2792.0	7002.0
31007229840100	-75.67030	42.1782	86.6	2999.2	25.9	56.4	84.6	113.3	140.3	2725.0	7519.0
31007229950000	-75.83353	42.1374	94.2	3086.4	27.6	59.4	90.0	124.7	153.6	2509.0	6322.0
31007229950000	-75.83350	42.1374	94.3	3102.6	27.5	64.8	89.5	121.3	151.0	3079.0	7876.0
31007229950100	-75.83353	42.1374	75.3	3086.4	21.5	46.2	71.6	98.4	121.0	3429.0	8515.0
31007229950100	-75.83350	42.1374	75.4	3121.8	21.3	50.2	71.2	96.3	120.2	4150.0	9698.0
31007230300000	-76.04420	42.3015	75.9	2729.8	24.5	52.7	80.3	108.8	134.3	2985.0	7722.0
31007230300000	-76.04420	42.3015	76.1	2765.5	24.3	52.9	78.7	105.4	130.8	3292.0	8270.0

31007230320000	-76.04418	42.2438	75.9	2740.2	24.4	52.4	80.1	109.1	134.5	2995.0	7646.0
31007230320000	-76.04420	42.2438	75.9	2740.2	24.4	53.1	79.0	105.9	131.4	3258.0	8219.0
31007230320100	-76.04418	42.2438	76.0	2748.7	24.4	52.3	79.9	108.8	134.2	3003.0	7665.0
31007230320100	-76.04420	42.2438	76.2	2781.0	24.2	52.7	78.4	105.1	130.4	3308.0	8297.0
31007230560000	-75.82491	42.1428	72.5	3080.0	20.6	44.4	68.9	94.5	116.2	3584.0	8900.0
31007230560000	-75.82490	42.1428	69.2	3090.4	19.5	43.2	65.8	87.7	108.8	4247.0	9847.0
31007230560000	-75.82490	42.1428	72.5	3082.8	20.6	45.6	69.1	92.3	114.5	3980.0	9430.0
31007230560100	-75.82491	42.1428	69.2	3079.7	19.5	42.0	65.6	89.8	110.4	3807.0	9360.0
31007230560100	-75.82490	42.1428	69.2	3090.4	19.5	43.2	65.8	87.7	108.8	4247.0	9847.0
31007230780000	-75.80369	42.1527	51.6	2048.9	20.8	40.9	66.3	88.6	108.7	3877.0	9265.0
31007230780000	-75.80370	42.1527	51.6	2048.9	20.8	44.8	66.9	89.6	111.4	4167.0	9724.0
31007230780200	-75.80369	42.1527	75.1	2898.0	22.8	48.9	75.3	103.2	127.0	3224.0	8085.0
31007230780200	-75.80370	42.1527	74.9	2862.7	23.0	51.6	75.5	101.6	126.3	3612.0	8825.0
31007230830000	-75.79481	42.1346	32.2	1493.2	15.5	31.2	51.7	69.0	84.5	5356.0	11406.0
31007230830000	-75.79480	42.1346	32.2	1493.5	15.5	33.6	49.5	67.1	84.5	5697.0	11835.0
31007261560000	-76.07970	42.0675	40.5	1491.1	21.1	46.0	64.3	87.4	109.6	4624.0	10407.0
31009006140000	-78.44870	42.0078	51.8	1313.1	32.6	72.3	93.7	128.2	160.3	3049.0	7822.0
31009018800000	-79.05630	42.4367	26.6	919.0	19.2	42.9	57.9	79.5	100.5	5331.0	11373.0
31009032470000	-78.71100	42.0625	41.5	1159.2	28.1	62.9	81.4	111.7	140.0	3801.0	9141.0
31009033120000	-78.71090	42.0685	41.3	1145.1	28.2	63.1	81.6	112.0	140.4	3785.0	9114.0
31009038540000	-78.74120	42.0484	40.7	1225.6	25.9	57.7	76.0	104.1	130.6	4044.0	9533.0
31009040880000	-78.95150	42.0237	45.9	1424.9	25.9	58.0	77.2	105.6	132.4	3869.0	9252.0
31009041530000	-78.92030	42.2762	49.3	1290.8	31.2	69.8	90.3	123.7	154.8	3252.0	8194.0
31009043730000	-78.52170	42.1337	46.8	1224.1	30.9	69.2	89.0	122.1	152.9	3364.0	8395.0
31009045500000	-78.95910	42.4407	30.5	892.2	24.1	54.1	70.1	96.4	121.5	4631.0	10417.0
31009045540000	-78.62110	42.0566	48.5	1273.2	31.0	69.5	89.8	123.1	154.0	3294.0	8270.0
31009045590000	-78.96720	42.4384	23.1	905.0	15.6	34.8	48.9	67.3	85.3	5875.0	12051.0
31009045700000	-78.97770	42.4583	30.5	879.7	24.5	54.7	70.8	97.4	122.6	4595.0	10365.0
31009045920000	-78.97180	42.4425	26.5	893.4	19.6	44.0	59.0	81.2	102.5	5281.0	11308.0
31009046500000	-78.97180	42.4392	33.7	911.4	27.2	60.9	77.7	106.9	134.4	4200.0	9776.0
31009048200000	-78.43450	42.0036	56.8	1454.8	32.8	73.6	95.8	131.1	163.8	2901.0	7541.0
31009048320000	-78.47750	42.1511	40.4	1198.8	26.2	58.6	76.8	105.2	132.1	4032.0	9513.0
31009049520000	-78.73320	42.0641	43.0	1323.1	25.7	57.8	76.4	104.6	131.2	4007.0	9474.0
31009049530000	-78.72950	42.0641	40.5	1258.2	25.1	56.2	74.3	101.7	127.7	4140.0	9683.0
31009053130000	-78.86601	42.4311	36.3	1056.7	25.8	51.0	72.6	98.1	122.4	3708.0	8986.0

31009091200000	-78.74840	42.0561	42.8	1329.2	25.4	57.1	75.6	103.5	129.8	4030.0	9510.0
31009091510000	-78.73420	42.0705	39.7	1316.1	23.4	52.4	70.2	96.0	120.6	4366.0	10029.0
31009092350000	-78.56849	42.0087	102.7	3553.1	26.4	60.0	89.9	126.9	155.6	2599.0	6645.0
31009092350000	-78.56849	42.0087	56.7	1929.1	24.7	50.7	77.1	103.4	128.0	3150.0	8039.0
31009092350000	-78.56850	42.0087	102.7	3552.8	26.4	62.1	88.0	119.2	148.4	2745.0	7568.0
31009092350000	-78.56850	42.0087	56.7	1928.8	24.7	52.8	76.7	103.4	128.6	3414.0	8482.0
31009100340000	-78.58750	42.0604	31.5	946.7	23.7	52.9	69.2	95.1	119.7	4630.0	10416.0
31009105770000	-78.87300	42.4114	25.7	1045.8	16.0	35.7	50.2	68.9	87.3	5767.0	11921.0
31009108450000	-78.85390	42.4144	37.4	1138.4	24.9	55.9	73.3	100.6	126.3	4280.0	9898.0
31009108550000	-78.59990	42.0211	31.2	1269.8	17.5	39.2	54.8	74.9	94.5	5412.0	11477.0
31009109620000	-78.82980	42.4154	33.3	1039.4	23.4	52.2	68.8	94.4	118.8	4600.0	10373.0
31009110660000	-78.89180	42.4033	31.6	1001.0	22.6	50.6	66.8	91.7	115.6	4746.0	10581.0
31009110670000	-78.85190	42.4276	35.2	1055.2	24.8	55.5	72.5	99.6	125.2	4372.0	10038.0
31009111470000	-78.87810	42.4056	32.3	1051.0	22.2	49.9	66.1	90.7	114.2	4780.0	10630.0
31009111480000	-78.87270	42.3985	32.9	1050.7	22.7	50.8	67.2	92.2	116.1	4686.0	10497.0
31009111950000	-78.83380	42.4228	30.1	1054.9	20.1	45.0	60.6	83.2	105.0	5109.0	11082.0
31009114780000	-78.42780	42.4735	37.9	1227.1	23.6	52.8	70.3	96.3	121.0	4403.0	10083.0
31009114800000	-78.87640	42.2039	46.8	1409.7	26.8	60.1	79.6	108.9	136.5	3739.0	9037.0
31009117060000	-78.79480	42.4500	25.4	870.2	18.8	42.1	56.9	78.2	98.9	5415.0	11482.0
31009117230000	-78.68020	42.4690	32.2	1001.6	23.2	51.9	68.2	93.7	118.0	4663.0	10464.0
31009124590000	-78.80960	42.4565	28.3	876.3	22.0	48.7	64.3	88.4	111.5	4945.0	10859.0
31009124610000	-78.81830	42.4444	30.7	971.1	22.3	50.2	66.1	90.8	114.4	4825.0	10693.0
31009124750000	-78.71890	42.4570	38.4	1011.0	29.1	65.3	83.2	114.4	143.5	3821.0	9174.0
31009124800000	-78.80810	42.4512	27.6	871.4	21.4	47.8	63.1	86.8	109.6	5042.0	10992.0
31009125050000	-78.81650	42.4512	27.5	864.1	21.4	47.7	63.1	86.8	109.5	5037.0	10984.0
31009130260000	-78.45140	42.0057	41.9	1320.7	24.9	55.7	74.1	101.4	127.2	4114.0	9642.0
31009133500000	-78.98930	42.4715	39.7	1324.4	23.2	52.1	69.8	95.5	119.9	4405.0	10087.0
31009135370000	-78.79110	42.3308	43.7	1247.6	27.9	62.4	81.4	111.6	139.8	3740.0	9040.0
31009144480000	-78.80710	42.4184	28.8	1034.2	19.1	42.8	58.2	79.8	100.8	5270.0	11295.0
31009153750000	-78.93270	42.3828	33.6	1060.1	23.2	51.9	68.4	93.9	118.2	4612.0	10391.0
31009156020000	-78.37730	42.4738	39.2	1243.0	24.3	54.5	72.3	99.0	124.3	4268.0	9881.0
31009156030000	-78.40700	42.4832	40.6	1263.7	25.0	55.9	74.1	101.5	127.3	4141.0	9685.0
31009156680000	-78.39710	42.4742	42.1	1294.2	25.6	57.3	75.8	103.8	130.2	4033.0	9515.0
31009156690000	-78.38530	42.4800	39.1	1229.1	24.5	54.8	72.6	99.4	124.9	4261.0	9869.0
31009156710000	-78.40670	42.4726	41.1	1257.0	25.5	57.2	75.4	103.3	129.7	4071.0	9576.0

31009157650000	-78.58730	42.0399	38.6	1232.6	24.0	54.0	71.5	97.9	123.0	4351.0	10006.0
31009157650000	-78.58730	42.0399	40.2	1227.7	25.4	57.1	75.0	102.9	129.1	4136.0	9677.0
31009159140000	-78.90310	42.3069	45.0	1303.0	27.6	61.9	81.1	111.1	139.2	3721.0	9009.0
31009159150000	-78.89830	42.3431	40.4	1203.1	26.1	58.2	76.5	104.8	131.5	4027.0	9505.0
31009160290000	-78.94050	42.1917	49.9	1344.2	30.4	68.2	88.8	121.6	152.1	3299.0	8279.0
31009160300000	-78.92110	42.1975	37.2	1170.1	24.1	53.8	71.2	97.6	122.7	4363.0	10024.0
31009162090000	-78.97510	42.2409	41.5	1287.5	25.2	56.5	74.8	102.4	128.5	4093.0	9609.0
31009162140000	-78.48500	42.0759	45.7	1124.7	32.6	73.1	92.8	127.5	159.6	3267.0	8221.0
31009162140000	-78.48500	42.0759	35.4	1115.9	23.7	52.9	69.9	95.9	120.6	4485.0	10206.0
31009162320000	-78.32990	42.0343	49.0	1289.3	31.1	69.5	89.9	123.2	154.2	3273.0	8232.0
31009162330000	-79.01822	42.1269	48.5	1462.1	27.0	54.7	79.8	107.4	133.4	3128.0	7967.0
31009162470000	-78.98280	42.1434	42.3	1358.8	24.5	54.8	73.3	100.2	125.7	4137.0	9678.0
31009162640000	-78.98280	42.1478	43.4	1354.2	25.4	56.9	75.6	103.4	129.7	4007.0	9474.0
31009162680000	-78.89380	42.3027	41.4	1281.4	25.3	56.9	75.0	102.8	129.0	4109.0	9634.0
31009162690000	-78.88550	42.2668	44.2	1376.2	25.6	57.2	76.1	104.1	130.5	3955.0	9391.0
31009163040000	-78.95010	42.2436	42.1	1294.8	25.6	57.2	75.7	103.6	130.0	4029.0	9508.0
31009163350000	-79.04860	42.1134	44.8	1380.1	25.9	57.9	77.1	105.4	132.1	3894.0	9292.0
31009163410000	-79.01873	42.1038	50.1	1507.5	27.3	55.2	80.9	108.8	135.1	3045.0	7813.0
31009163410000	-79.01870	42.1038	50.2	1509.4	27.3	61.1	81.4	111.2	139.2	3586.0	8781.0
31009163790000	-79.02670	42.1167	43.1	1475.2	23.1	51.8	70.2	95.9	120.3	4279.0	9897.0
31009163900000	-78.96150	42.1242	47.6	1477.7	26.1	58.5	78.1	106.7	133.7	3786.0	9116.0
31009164060000	-78.90910	42.4143	29.5	968.0	21.2	47.4	63.1	86.7	109.4	4988.0	10918.0
31009164110000	-78.90290	42.4127	26.4	984.8	17.7	39.6	54.4	74.7	94.4	5521.0	11616.0
31009164120000	-78.89350	42.4058	31.9	978.1	23.4	52.1	68.5	94.1	118.4	4645.0	10438.0
31009164130000	-78.94120	42.4032	31.4	1024.7	21.9	49.0	65.1	89.4	112.6	4844.0	10719.0
31009164160000	-78.93280	42.4038	32.9	1012.9	23.6	53.0	69.4	95.4	120.0	4592.0	10362.0
31009164170000	-78.92580	42.3784	33.3	1165.7	20.8	46.7	63.0	86.3	108.7	4904.0	10803.0
31009164180000	-78.89640	42.3936	37.7	1035.0	27.7	61.9	79.6	109.4	137.3	3979.0	9429.0
31009164210000	-78.92210	42.3708	39.5	1174.7	26.0	58.2	76.1	104.4	131.1	4085.0	9596.0
31009164230000	-78.93380	42.3521	29.1	1185.8	16.9	38.0	53.1	72.7	91.8	5553.0	11656.0
31009164240000	-78.93250	42.3567	38.1	1162.6	25.0	56.0	73.7	101.0	126.9	4231.0	9823.0
31009167180000	-79.03410	42.2866	38.2	1201.5	24.3	54.4	72.0	98.7	124.0	4319.0	9958.0
31009167190000	-79.00240	42.2913	36.4	1154.0	23.8	53.1	70.4	96.5	121.2	4429.0	10123.0
31009167230000	-79.03200	42.1120	48.7	1480.1	26.8	60.2	80.1	109.5	137.1	3675.0	8931.0
31009167240000	-79.03980	42.1160	46.7	1449.9	26.0	58.3	77.8	106.3	133.2	3831.0	9189.0

31009167250000	-79.05670	42.1222	41.3	1321.3	24.5	54.6	72.9	99.7	125.1	4177.0	9740.0
31009167820000	-79.02400	42.3113	37.6	1160.1	24.7	55.3	72.8	99.9	125.5	4290.0	9914.0
31009167830000	-78.99490	42.2623	41.8	1267.4	25.9	58.0	76.4	104.6	131.3	4015.0	9487.0
31009167850000	-79.04110	42.1061	47.1	1456.3	26.2	58.7	78.2	106.9	134.0	3800.0	9139.0
31009167860000	-78.99720	42.1315	46.8	1458.8	25.9	58.1	77.5	106.0	132.8	3832.0	9192.0
31009168090000	-78.89040	42.3220	29.0	888.8	22.5	48.7	64.7	88.8	111.9	4840.0	10713.0
31009168100000	-78.98890	42.1471	43.4	1353.9	25.4	56.8	75.5	103.3	129.6	4004.0	9469.0
31009168270000	-79.03422	42.1153	47.4	1463.6	26.3	53.0	77.7	104.5	129.9	3249.0	8190.0
31009168270000	-79.03420	42.1153	47.4	1464.6	26.2	58.8	78.4	107.2	134.3	3778.0	9103.0
31009168300000	-78.91160	42.3488	40.3	1242.1	25.2	56.6	74.7	102.3	128.4	4135.0	9676.0
31009168310000	-78.90650	42.3488	40.0	1211.9	25.6	57.2	75.3	103.2	129.5	4109.0	9634.0
31009168380000	-78.98850	42.1378	45.2	1411.8	25.6	57.3	76.4	104.5	131.0	3918.0	9332.0
31009168420000	-78.97630	42.1340	47.6	1479.2	26.1	58.6	78.2	106.8	133.8	3796.0	9133.0
31009168490000	-79.04610	42.3219	34.7	1061.0	24.2	54.2	71.1	97.6	122.7	4455.0	10161.0
31009168590000	-78.92330	42.3489	39.6	1231.4	24.9	55.8	73.7	101.0	126.8	4195.0	9769.0
31009168600000	-78.92610	42.3560	37.7	1212.6	23.7	53.1	70.6	96.7	121.5	4395.0	10071.0
31009168610000	-78.92640	42.3521	39.3	1224.8	24.7	55.5	73.3	100.4	126.1	4226.0	9816.0
31009168740000	-78.96830	42.1416	44.3	1383.8	25.5	57.0	76.0	103.9	130.2	3960.0	9399.0
31009168820000	-79.03880	42.1782	36.6	1251.8	22.0	49.3	66.4	90.9	114.3	4636.0	10425.0
31009169040000	-78.64490	42.3039	42.1	1435.6	23.1	51.7	69.9	95.5	119.9	4324.0	9965.0
31009169060000	-78.64840	42.3146	44.4	1394.5	25.4	56.8	75.8	103.6	129.9	3969.0	9413.0
31009169070000	-78.66170	42.3104	41.1	1447.8	22.2	49.8	67.7	92.5	116.1	4469.0	10182.0
31009169120000	-78.65440	42.3091	42.9	1457.6	23.3	52.3	70.6	96.5	121.1	4285.0	9906.0
31009169180000	-78.89700	42.3673	35.5	1169.8	22.7	50.7	67.7	92.8	116.7	4591.0	10361.0
31009169200000	-78.89660	42.3740	38.3	1171.0	25.0	56.1	73.7	101.1	126.9	4234.0	9829.0
31009169200000	-78.89660	42.3740	38.1	1171.0	24.8	55.6	73.2	100.4	126.1	4263.0	9873.0
31009169220000	-78.90280	42.3544	38.4	1173.2	25.0	56.0	73.7	101.1	126.9	4223.0	9812.0
31009169240000	-78.91440	42.3791	33.1	1028.4	23.5	51.5	68.3	93.6	117.8	4574.0	10336.0
31009169260000	-78.93220	42.3670	31.4	1111.3	20.2	45.2	61.1	83.8	105.6	5041.0	10990.0
31009169290000	-78.93400	42.4284	29.9	911.9	22.9	51.3	67.1	92.3	116.3	4793.0	10648.0
31009169300000	-78.92940	42.4251	29.4	915.2	22.2	49.8	65.5	90.0	113.5	4879.0	10768.0
31009169310000	-78.90780	42.3887	27.8	1047.6	18.0	40.2	55.3	75.8	95.8	5444.0	11518.0
31009169320000	-78.92130	42.4316	30.0	901.9	23.3	52.1	68.0	93.6	117.9	4740.0	10574.0
31009169400000	-78.96530	42.1201	47.8	1496.9	25.9	58.1	77.8	106.2	133.1	3802.0	9143.0
31009169410000	-78.97530	42.1135	47.6	1480.7	26.1	58.4	78.1	106.7	133.6	3788.0	9120.0

31009169530000	-78.43940	42.0163	45.5	1539.2	23.7	53.4	72.2	98.6	123.6	4156.0	9709.0
31009169610000	-78.66040	42.3628	38.7	1332.3	22.3	49.8	67.3	92.0	115.6	4532.0	10275.0
31009169630000	-78.90250	42.3982	33.0	1041.0	23.1	51.7	68.1	93.6	117.8	4643.0	10435.0
31009169640000	-78.90750	42.4028	31.5	1031.4	21.8	48.8	64.9	89.1	112.2	4844.0	10719.0
31009169650000	-78.90260	42.4027	33.3	1042.4	23.3	52.3	68.8	94.5	118.9	4606.0	10382.0
31009169860000	-78.94790	42.2219	41.7	1310.6	25.0	56.0	74.3	101.7	127.6	4108.0	9633.0
31009169870000	-78.99720	42.1494	43.5	1366.1	25.3	56.6	75.3	103.1	129.2	4015.0	9486.0
31009169900000	-79.00790	42.1491	44.8	1384.4	25.9	58.0	77.1	105.4	132.2	3902.0	9306.0
31009169920000	-78.97520	42.2116	41.7	1308.8	25.0	56.0	74.4	101.8	127.7	4109.0	9635.0
31009169930000	-79.05695	42.1984	35.6	1218.6	21.8	42.5	63.4	85.0	105.9	4275.0	9891.0
31009169930000	-79.05700	42.1984	35.7	1224.4	21.8	48.7	65.6	89.8	112.9	4695.0	10509.0
31009169950000	-78.93500	42.4090	30.6	963.2	22.4	50.0	66.0	90.7	114.2	4811.0	10673.0
31009170140000	-79.03780	42.1280	45.9	1431.7	25.8	57.8	77.1	105.4	132.1	3873.0	9259.0
31009170160000	-79.03410	42.0856	51.6	1437.7	29.6	66.3	87.2	119.2	149.1	3316.0	8310.0
31009170200000	-79.04960	42.1234	44.2	1378.3	25.6	57.3	76.2	104.2	130.6	3963.0	9403.0
31009170430000	-78.67550	42.3146	40.3	1421.9	22.0	49.4	67.1	91.7	115.1	4524.0	10262.0
31009170550000	-78.87870	42.2773	42.9	1266.1	26.7	59.8	78.6	107.7	135.0	3878.0	9267.0
31009170560000	-78.67130	42.3191	41.3	1321.0	24.5	54.5	72.8	99.6	125.0	4175.0	9736.0
31009170650000	-78.98330	42.2528	36.5	1249.7	22.0	49.2	66.3	90.7	114.1	4631.0	10418.0
31009170670000	-78.88944	42.3303	41.3	1227.4	26.3	52.5	75.6	101.9	126.9	3449.0	8545.0
31009170670000	-78.88940	42.3303	41.2	1225.3	26.3	59.0	77.4	106.0	133.0	3989.0	9445.0
31009170720000	-78.65220	42.3041	42.4	1409.1	23.7	52.8	71.2	97.3	122.1	4233.0	9826.0
31009170730000	-78.67460	42.3487	43.6	1374.0	25.2	56.5	75.2	102.8	129.0	4022.0	9497.0
31009170890000	-78.97600	42.2558	41.6	1299.7	25.1	56.2	74.6	102.1	128.1	4102.0	9624.0
31009170900000	-78.64330	42.3607	43.7	1335.9	26.0	58.3	77.1	105.5	132.3	3933.0	9356.0
31009170910000	-78.96050	42.2414	42.5	1324.4	25.3	56.7	75.2	102.9	129.0	4055.0	9549.0
31009170920000	-78.98820	42.1968	39.2	1242.4	24.3	54.5	72.3	99.0	124.4	4268.0	9881.0
31009170930000	-78.98210	42.2409	41.1	1300.9	24.7	55.3	73.5	100.6	126.2	4177.0	9740.0
31009170940000	-79.00080	42.2580	40.5	1254.3	25.1	56.3	74.4	101.9	127.9	4143.0	9687.0
31009170950000	-79.01640	42.2160	40.0	1255.8	24.7	55.2	73.2	100.3	125.9	4208.0	9788.0
31009170960000	-78.98539	42.2352	40.7	1274.7	24.9	49.6	72.4	97.3	121.2	3634.0	8862.0
31009170960000	-78.98540	42.2352	40.7	1267.4	25.0	55.8	74.0	101.3	127.1	4141.0	9685.0
31009170970000	-78.95060	42.2486	36.0	1204.0	22.4	48.8	66.2	90.4	113.7	4585.0	10351.0
31009170980000	-79.02180	42.2585	37.1	1161.6	24.2	54.5	71.7	98.4	123.6	4386.0	10058.0
31009170990000	-78.96734	42.2429	37.0	1286.0	21.8	43.4	64.4	86.4	107.7	4242.0	9840.0

31009170990000	-78.96730	42.2429	37.0	1283.5	21.8	48.6	65.7	89.9	113.0	4647.0	10441.0
31009171050000	-78.68690	42.3256	38.0	1280.5	22.7	50.7	68.1	93.2	117.2	4503.0	10232.0
31009171070000	-78.66470	42.3389	39.2	1376.5	21.9	49.2	66.7	91.1	114.5	4559.0	10314.0
31009171180000	-78.96040	42.2467	43.1	1327.4	25.7	57.6	76.2	104.3	130.8	3996.0	9456.0
31009171340000	-79.02900	42.2135	39.6	1183.8	25.9	57.8	75.9	104.0	130.5	4088.0	9602.0
31009171470000	-78.97850	42.1959	40.5	1256.1	25.1	56.2	74.3	101.8	127.7	4138.0	9680.0
31009171480000	-78.97380	42.1894	39.0	1272.2	23.6	52.9	70.6	96.7	121.4	4358.0	10016.0
31009171600000	-79.03340	42.1649	41.6	1302.7	25.1	56.1	74.5	102.0	127.9	4102.0	9624.0
31009171610000	-79.03340	42.1717	41.8	1270.1	25.8	57.8	76.3	104.5	131.1	4013.0	9484.0
31009171710000	-79.04750	42.1929	39.8	1241.8	24.8	55.5	73.5	100.6	126.4	4198.0	9773.0
31009171750000	-78.67940	42.3339	39.4	1351.5	22.5	50.6	68.2	93.2	117.1	4481.0	10199.0
31009171790000	-78.97496	42.3958	33.1	1003.7	24.0	46.9	67.2	90.9	113.5	4083.0	9593.0
31009171790000	-78.97500	42.3958	33.1	1002.2	24.0	53.7	70.2	96.5	121.4	4539.0	10284.0
31009171800000	-78.99990	42.3862	31.6	994.0	22.7	50.7	66.9	91.9	115.7	4742.0	10576.0
31009171840000	-79.04720	42.1648	41.3	1273.2	25.4	56.8	75.1	102.9	129.1	4085.0	9596.0
31009171860000	-79.05940	42.1704	43.2	1249.7	27.4	61.4	80.2	109.9	137.8	3806.0	9149.0
31009171970000	-79.05480	42.2208	36.6	1169.2	23.6	53.0	70.2	96.2	121.0	4443.0	10143.0
31009171990000	-79.04880	42.2021	39.8	1242.2	24.8	55.6	73.5	100.7	126.4	4204.0	9782.0
31009172010000	-79.04250	42.1718	40.1	1265.8	24.6	55.0	73.0	100.0	125.5	4215.0	9799.0
31009172050000	-79.04250	42.1867	40.5	1254.0	25.1	56.3	74.4	101.9	127.9	4142.0	9686.0
31009172060000	-79.00790	42.2090	39.0	1221.3	24.5	54.9	72.7	99.6	125.1	4254.0	9859.0
31009172090000	-79.03870	42.3649	30.2	998.8	21.3	47.6	63.4	87.1	109.8	4958.0	10876.0
31009172100000	-79.00010	42.3600	32.5	1023.2	23.0	51.5	67.8	93.1	117.2	4675.0	10480.0
31009172120000	-79.02730	42.2271	39.7	1189.6	25.8	57.7	75.8	103.8	130.3	4093.0	9609.0
31009172130000	-79.04400	42.1479	41.4	1375.9	23.6	52.8	70.9	97.0	121.7	4286.0	9908.0
31009172150000	-79.02740	42.1685	42.3	1314.0	25.4	57.0	75.4	103.3	129.6	4057.0	9553.0
31009172250000	-79.02510	42.2359	38.9	1215.9	24.6	55.2	72.9	99.9	125.5	4260.0	9867.0
31009172390000	-79.01500	42.3939	28.5	976.9	20.0	44.8	60.2	82.6	104.3	5167.0	11159.0
31009172410000	-79.02312	42.3606	31.9	1019.9	22.5	43.5	63.3	85.4	106.6	4341.0	9990.0
31009172410000	-79.02310	42.3606	31.9	1018.6	22.5	50.3	66.5	91.4	115.1	4755.0	10595.0
31009172500000	-78.95380	42.3269	36.1	1129.9	24.0	53.8	70.9	97.3	122.3	4418.0	10106.0
31009172540000	-79.03359	42.3567	35.2	1015.0	25.8	49.8	71.4	96.3	120.1	3735.0	9032.0
31009172540000	-79.03360	42.3567	35.2	1015.0	25.8	57.8	74.8	102.8	129.2	4269.0	9882.0
31009172550000	-78.97520	42.3019	38.4	1220.1	24.1	54.0	71.6	98.1	123.2	4327.0	9970.0
31009172630000	-78.99160	42.2188	41.0	1298.1	24.7	55.3	73.5	100.6	126.2	4169.0	9728.0

31009172640000	-78.97010	42.3881	31.8	1012.9	22.5	50.4	66.6	91.4	115.1	4751.0	10589.0
31009172670000	-78.97690	42.1839	40.1	1268.9	24.5	54.9	72.9	99.8	125.3	4215.0	9800.0
31009172690000	-78.59060	42.0484	44.1	1365.5	25.7	58.5	76.8	105.3	132.1	4034.0	9516.0
31009172740000	-78.94570	42.3490	36.0	1122.6	24.1	53.9	71.1	97.5	122.6	4413.0	10099.0
31009172750000	-79.00420	42.2045	39.0	1224.1	24.5	54.9	72.7	99.6	125.0	4257.0	9863.0
31009172760000	-78.96110	42.3507	31.9	1057.7	21.6	48.3	64.5	88.5	111.4	4855.0	10734.0
31009172780000	-79.04960	42.1964	40.4	1248.2	25.2	56.5	74.5	102.1	128.2	4140.0	9683.0
31009172790000	-78.94360	42.2851	41.9	1275.0	25.8	57.7	76.2	104.4	130.9	4017.0	9490.0
31009172800000	-79.03530	42.2360	36.2	1134.5	24.0	53.5	70.7	97.0	121.9	4418.0	10105.0
31009172890000	-79.04730	42.1549	41.6	1298.5	25.1	56.1	74.5	102.0	128.0	4097.0	9616.0
31009172900000	-79.05180	42.1505	41.5	1339.6	24.3	54.4	72.7	99.4	124.8	4195.0	9768.0
31009172910000	-78.98290	42.3492	32.8	1043.3	22.8	50.9	67.3	92.4	116.4	4682.0	10492.0
31009176050000	-79.05550	42.2034	36.6	1250.9	22.0	49.5	66.5	91.0	114.5	4643.0	10435.0
31009176050000	-79.05550	42.2034	41.9	1236.3	26.6	59.7	78.2	107.2	134.4	3924.0	9340.0
31009176190000	-78.79030	42.2150	44.8	1498.1	23.9	53.5	72.3	98.7	123.8	4134.0	9674.0
31009176240000	-79.03630	42.1831	40.3	1239.3	25.3	56.6	74.7	102.3	128.4	4127.0	9662.0
31009176320000	-79.04770	42.1427	40.9	1382.9	23.1	51.8	69.7	95.3	119.7	4356.0	10013.0
31009176370000	-78.98373	42.3854	32.0	1029.9	22.4	44.0	63.6	85.9	107.4	4359.0	10018.0
31009176370000	-78.98370	42.3854	32.0	1028.7	22.4	50.2	66.4	91.1	114.8	4762.0	10605.0
31009176380000	-78.80490	42.2137	47.8	1496.3	25.9	58.1	77.8	106.2	133.1	3801.0	9140.0
31009176470000	-79.04220	42.1966	39.7	1235.1	24.9	55.7	73.6	100.8	126.6	4194.0	9766.0
31009176570000	-78.71660	42.2283	47.6	1524.3	25.3	56.7	76.2	104.1	130.4	3879.0	9268.0
31009176700000	-78.64600	42.2180	46.5	1381.4	27.1	60.8	80.3	109.9	137.6	3718.0	9002.0
31009176830000	-78.92530	42.4038	29.1	1017.1	19.8	44.3	59.7	82.0	103.5	5183.0	11179.0
31009176870000	-79.05910	42.1495	40.2	1321.3	23.6	52.9	70.8	96.8	121.6	4317.0	9954.0
31009176970000	-78.84160	42.1557	47.0	1429.2	26.6	59.6	79.2	108.3	135.7	3752.0	9060.0
31009177050000	-78.89220	42.3526	39.0	1245.4	24.1	54.0	71.7	98.2	123.4	4313.0	9948.0
31009177060000	-78.89070	42.3599	36.9	1213.7	23.0	51.7	68.8	94.3	118.6	4515.0	10249.0
31009177140000	-78.92530	42.1630	41.9	1320.1	24.9	55.8	74.1	101.5	127.3	4114.0	9643.0
31009177230000	-79.05690	42.0563	41.8	1456.9	22.5	50.4	68.5	93.6	117.5	4401.0	10080.0
31009177560000	-78.90880	42.3524	39.0	1179.0	25.4	56.8	74.7	102.3	128.5	4151.0	9700.0
31009177640000	-78.91280	42.3851	33.8	1036.3	23.9	53.5	70.2	96.4	121.3	4518.0	10254.0
31009177780000	-79.01330	42.1734	39.4	1254.0	24.2	54.3	72.1	98.7	124.0	4277.0	9894.0
31009177920000	-78.93940	42.4181	29.5	927.2	22.1	49.4	65.1	89.5	112.8	4881.0	10771.0
31009177930000	-78.93790	42.4131	30.0	961.3	21.8	49.0	64.7	89.0	112.2	4902.0	10800.0

31009178240000	-78.89660	42.3616	34.4	1213.4	21.0	47.0	63.5	87.0	109.5	4849.0	10727.0
31009178250000	-78.89920	42.4070	29.2	1022.6	19.7	44.3	59.7	82.0	103.5	5189.0	11187.0
31009178340000	-78.90750	42.3788	30.6	1129.0	19.1	42.9	58.5	80.2	101.2	5217.0	11224.0
31009178350000	-78.91700	42.3488	38.5	1230.5	24.0	53.8	71.4	97.8	122.8	4332.0	9977.0
31009178360000	-78.88620	42.3524	38.7	1245.7	23.9	53.5	71.1	97.5	122.4	4349.0	10002.0
31009178880000	-78.88810	42.3561	32.9	1227.9	19.5	43.7	59.8	81.9	103.2	5087.0	11052.0
31009179050000	-78.87850	42.3491	39.8	1223.8	25.2	56.6	74.5	102.1	128.2	4161.0	9715.0
31009179060000	-78.88140	42.3522	39.0	1226.5	24.5	55.0	72.7	99.7	125.2	4272.0	9887.0
31009179070000	-78.90770	42.3842	31.2	1051.6	21.1	47.1	63.1	86.6	109.1	4932.0	10842.0
31009179310000	-79.00470	42.4147	28.5	1094.8	17.8	39.9	55.0	75.5	95.4	5458.0	11536.0
31009179500000	-79.01103	42.1831	36.3	1233.5	22.2	42.9	64.3	86.1	107.2	4185.0	9752.0
31009179500000	-79.01100	42.1831	39.9	1253.6	24.7	55.4	73.3	100.4	126.0	4213.0	9796.0
31009180430000	-78.84380	42.3678	34.6	1185.7	21.6	48.5	65.1	89.2	112.3	4757.0	10598.0
31009180440000	-78.84310	42.3760	34.3	1163.3	21.8	48.8	65.4	89.6	112.8	4744.0	10579.0
31009180700000	-78.88110	42.3832	34.2	1063.8	23.7	53.0	69.7	95.7	120.4	4535.0	10278.0
31009180720000	-78.86140	42.3657	37.8	1193.6	24.1	53.8	71.4	97.8	122.9	4341.0	9991.0
31009180730000	-78.86280	42.3713	35.3	1214.6	21.6	48.5	65.3	89.4	112.5	4735.0	10566.0
31009180740000	-78.87020	42.3714	37.3	1178.1	24.0	54.0	71.3	97.8	122.9	4384.0	10055.0
31009180750000	-78.86760	42.3671	39.1	1207.3	24.9	56.1	73.7	101.1	127.0	4231.0	9823.0
31009180760000	-78.86900	42.3630	33.5	1207.6	20.3	45.8	61.9	84.8	106.9	4994.0	10925.0
31009180760000	-78.86900	42.3630	33.2	1207.6	20.1	45.4	61.4	84.2	106.1	5024.0	10967.0
31009180770000	-78.86390	42.3764	37.7	1205.5	23.8	53.4	70.7	97.0	121.8	4396.0	10074.0
31009180900000	-78.86840	42.3876	34.6	1115.0	22.9	51.2	68.0	93.2	117.2	4599.0	10371.0
31009180910000	-78.87540	42.3876	34.4	1143.3	22.2	50.0	66.5	91.2	114.8	4715.0	10538.0
31009180910000	-78.87540	42.3876	33.7	1113.1	22.2	49.8	66.3	90.9	114.4	4724.0	10550.0
31009180920000	-78.85240	42.3804	35.9	1154.0	23.3	52.1	69.2	94.9	119.3	4507.0	10237.0
31009180930000	-78.85780	42.4011	32.7	1165.9	20.3	45.6	61.7	84.6	106.6	4983.0	10911.0
31009180950000	-78.84640	42.3819	34.1	1143.9	21.9	49.1	65.7	90.0	113.3	4734.0	10565.0
31009181140000	-78.85380	42.3660	32.6	1198.2	19.7	44.1	60.1	82.4	103.8	5076.0	11037.0
31009181150000	-78.92630	42.3737	36.8	1181.4	23.5	52.8	70.0	96.0	120.6	4455.0	10161.0
31009181660000	-79.02300	42.1640	39.8	1287.2	23.9	53.4	71.3	97.6	122.6	4293.0	9918.0
31009181860000	-79.05010	42.3808	34.4	1052.2	24.1	54.0	70.8	97.3	122.3	4472.0	10186.0
31009181870000	-79.04890	42.3898	35.1	1073.2	24.3	54.6	71.5	98.2	123.4	4425.0	10117.0
31009181930000	-78.97000	42.4199	31.7	991.2	22.9	51.3	67.5	92.7	116.7	4719.0	10543.0
31009182240000	-78.91200	42.4004	26.0	1033.6	16.4	36.8	51.4	70.5	89.3	5699.0	11837.0

31009182540000	-79.04880	42.3693	32.2	1040.0	22.3	50.0	66.2	90.9	114.5	4770.0	10616.0
31009182710000	-79.05740	42.2089	35.1	1180.5	22.1	49.4	66.2	90.8	114.2	4672.0	10477.0
31009182870000	-79.05250	42.2122	36.1	1167.4	23.2	51.8	68.9	94.4	118.7	4513.0	10246.0
31009183080000	-79.04780	42.2087	35.1	1181.4	22.1	49.5	66.3	90.8	114.2	4674.0	10480.0
31009184250000	-78.83770	42.3835	33.6	1145.1	21.4	48.1	64.5	88.4	111.4	4819.0	10684.0
31009184290000	-78.96340	42.2522	43.2	1338.1	25.5	57.2	75.9	103.9	130.3	3996.0	9457.0
31009184350000	-79.03752	42.1105	46.7	1446.6	26.0	52.4	77.0	103.4	128.5	3290.0	8262.0
31009184350000	-79.03750	42.1105	46.7	1448.1	26.0	58.1	77.6	106.1	132.9	3819.0	9170.0
31009184450000	-78.91790	42.4162	31.1	960.7	23.0	51.5	67.6	92.9	117.0	4727.0	10555.0
31009184660000	-78.85010	42.3602	36.1	1169.8	23.2	51.9	69.0	94.5	118.8	4517.0	10252.0
31009184670000	-78.83720	42.3747	36.2	1168.9	23.3	52.3	69.4	95.1	119.5	4495.0	10221.0
31009184680000	-78.86530	42.3586	38.6	1212.1	24.4	54.8	72.4	99.2	124.6	4293.0	9917.0
31009184700000	-78.86010	42.3547	38.0	1233.5	23.5	52.9	70.3	96.3	121.0	4423.0	10113.0
31009184710000	-78.85050	42.3547	36.8	1182.8	23.5	52.7	69.9	95.9	120.5	4451.0	10156.0
31009184720000	-78.84660	42.3502	36.6	1120.8	24.6	54.9	72.2	99.1	124.5	4332.0	9977.0
31009184730000	-78.85240	42.3494	36.6	1168.0	23.7	53.3	70.4	96.5	121.4	4465.0	10176.0
31009184840000	-78.82831	42.3884	34.9	1074.4	24.1	46.3	67.6	91.0	113.4	3969.0	9413.0
31009184840000	-78.82830	42.3884	34.8	1073.2	24.1	53.9	70.8	97.1	122.1	4460.0	10168.0
31009184850000	-78.83510	42.3890	34.2	1111.3	22.7	50.9	67.5	92.6	116.5	4640.0	10430.0
31009184850000	-78.83510	42.3890	34.4	1111.0	22.9	51.3	68.0	93.3	117.4	4608.0	10385.0
31009184860000	-78.81890	42.3890	34.8	1070.2	24.1	54.0	70.9	97.3	122.4	4460.0	10168.0
31009184870000	-78.84370	42.3583	37.1	1119.8	25.1	55.9	73.4	100.7	126.5	4254.0	9858.0
31009184880000	-78.86460	42.3491	29.3	1078.1	18.9	42.0	57.5	78.7	99.4	5278.0	11304.0
31009184950000	-78.85980	42.3604	34.5	1217.7	20.9	46.9	63.4	86.9	109.4	4849.0	10727.0
31009185140000	-78.83870	42.3650	38.2	1207.9	24.2	54.4	71.9	98.5	123.8	4328.0	9971.0
31009185390000	-79.05645	42.1128	44.2	1377.1	25.6	50.9	74.9	100.6	125.1	3414.0	8483.0
31009185390000	-79.05650	42.1128	44.2	1379.2	25.5	57.3	76.2	104.2	130.7	3969.0	9413.0
31009185400000	-78.93830	42.4361	27.7	874.8	21.4	47.8	63.1	86.8	109.5	5044.0	10994.0
31009185530000	-78.38400	42.3975	45.2	1411.2	25.6	57.4	76.5	104.6	131.1	3920.0	9335.0
31009185580000	-78.49220	42.3777	41.5	1288.1	25.2	56.5	74.8	102.4	128.5	4093.0	9609.0
31009185600000	-79.05540	42.1074	45.6	1355.8	27.0	60.5	79.8	109.2	136.9	3758.0	9070.0
31009186050000	-79.03680	42.3988	31.2	1000.4	22.2	49.8	65.9	90.5	114.0	4805.0	10665.0
31009186130000	-78.43000	42.3964	45.2	1414.9	25.6	57.3	76.4	104.5	131.0	3923.0	9339.0
31009186150000	-79.05660	42.3920	34.4	1084.8	23.5	52.6	69.3	95.1	119.7	4550.0	10300.0
31009186270000	-79.02920	42.3740	31.9	1023.2	22.4	50.3	66.5	91.3	115.0	4759.0	10600.0

31009186280000	-79.00490	42.3764	31.3	1017.1	21.9	49.2	65.2	89.5	112.8	4839.0	10712.0
31009186290000	-79.02840	42.3890	31.8	1009.5	22.6	50.5	66.7	91.6	115.4	4752.0	10590.0
31009186300000	-79.05840	42.3747	33.6	1066.5	23.1	52.0	68.5	94.0	118.3	4631.0	10418.0
31009186370000	-78.90840	42.4074	30.9	1027.5	21.3	47.8	63.7	87.4	110.2	4929.0	10837.0
31009186470000	-79.04850	42.1719	37.7	1254.9	22.9	51.3	68.6	93.9	118.1	4490.0	10213.0
31009186540000	-78.99000	42.4144	31.8	1011.8	22.5	50.6	66.7	91.6	115.4	4759.0	10600.0
31009186620000	-78.99390	42.4107	30.6	1047.0	20.6	46.3	62.0	85.2	107.4	5021.0	10962.0
31009187220000	-79.02490	42.1760	37.9	1228.7	23.6	52.7	70.2	96.1	120.8	4401.0	10080.0
31009187600000	-79.02180	42.4162	32.1	992.4	23.3	52.0	68.3	93.8	118.1	4656.0	10453.0
31009187610000	-79.01130	42.4038	33.6	1006.1	24.5	54.8	71.5	98.2	123.5	4471.0	10184.0
31009187620000	-79.04510	42.4126	31.5	978.1	23.0	51.5	67.7	93.0	117.1	4710.0	10531.0
31009187730000	-78.99440	42.3899	32.2	1016.2	22.8	51.1	67.4	92.6	116.6	4706.0	10525.0
31009187740000	-78.99030	42.3859	32.9	1026.0	23.3	52.3	68.7	94.4	118.8	4621.0	10404.0
31009187740000	-78.99030	42.3859	32.8	1022.9	23.3	52.2	68.6	94.3	118.7	4626.0	10411.0
31009187750000	-79.00610	42.4206	34.2	1074.1	23.4	52.6	69.3	95.1	119.6	4562.0	10317.0
31009187780000	-79.02370	42.4217	31.9	991.5	23.1	51.8	68.0	93.5	117.7	4685.0	10495.0
31009187790000	-78.97770	42.3816	32.9	1028.7	23.2	52.1	68.5	94.1	118.5	4630.0	10416.0
31009187860000	-78.87210	42.3929	30.9	1068.6	20.5	45.6	61.5	84.3	106.3	5022.0	10964.0
31009188000000	-79.04380	42.4074	32.8	979.0	24.4	54.4	70.9	97.5	122.6	4506.0	10237.0
31009188010000	-79.01880	42.4088	32.8	979.0	24.4	54.4	71.0	97.5	122.7	4507.0	10237.0
31009189310000	-78.74220	42.0590	42.0	1333.5	24.8	55.6	73.9	101.1	126.9	4132.0	9670.0
31009189380000	-79.05180	42.4126	34.9	1007.7	25.7	57.6	74.6	102.5	128.9	4289.0	9911.0
31009189390000	-79.04370	42.3678	31.8	1012.2	22.5	50.4	66.6	91.4	115.1	4750.0	10588.0
31009191020000	-79.02861	42.2514	36.9	1148.2	24.3	47.0	69.0	92.8	115.5	3842.0	9208.0
31009191020000	-79.02860	42.2514	36.9	1147.6	24.3	54.5	71.8	98.5	123.8	4354.0	10011.0
31009191030000	-78.98416	42.2281	42.2	1305.2	25.5	50.9	74.1	99.8	124.2	3515.0	8658.0
31009191030000	-78.98420	42.2281	42.2	1303.3	25.5	57.1	75.6	103.5	129.8	4038.0	9523.0
31009191250000	-78.35487	42.1787	39.5	1218.3	25.0	48.4	73.6	98.3	121.7	3367.0	8400.0
31009191250000	-78.35490	42.1787	39.4	1211.6	25.1	56.2	74.1	101.5	127.4	4177.0	9741.0
31009191340000	-79.04500	42.2519	35.6	1134.8	23.5	52.6	69.6	95.5	120.0	4498.0	10224.0
31009191390000	-79.05700	42.1640	38.2	1250.9	23.4	52.3	69.8	95.6	120.1	4415.0	10102.0
31009191620000	-78.99290	42.2519	39.6	1234.1	24.8	55.5	73.4	100.5	126.2	4207.0	9787.0
31009191680000	-79.02290	42.2470	38.8	1168.0	25.6	57.4	75.1	103.0	129.4	4157.0	9710.0
31009191900000	-79.01840	42.2102	39.0	1182.6	25.4	56.8	74.6	102.3	128.5	4156.0	9707.0
31009192010000	-79.05520	42.1589	39.6	1271.9	24.1	53.8	71.7	98.2	123.3	4286.0	9907.0

31009192020000	-79.04820	42.1600	40.7	1272.2	24.9	55.8	73.9	101.2	127.0	4147.0	9694.0
31009192110000	-79.03821	42.2199	36.7	1174.4	23.6	45.5	67.3	90.3	112.4	3950.0	9383.0
31009192110000	-79.03820	42.2199	36.7	1172.6	23.6	52.9	70.1	96.1	120.8	4444.0	10145.0
31009192120000	-79.04620	42.2197	37.2	1172.9	24.1	54.0	71.3	97.8	122.9	4371.0	10036.0
31009192730000	-78.98500	42.4226	25.3	827.2	19.7	43.7	58.6	80.6	101.9	5308.0	11343.0
31009192820000	-79.04150	42.2096	38.4	1177.4	25.0	56.0	73.6	101.0	126.8	4227.0	9817.0
31009192830000	-78.99813	42.2417	40.5	1258.8	25.1	49.9	72.6	97.7	121.7	3621.0	8839.0
31009192830000	-78.99810	42.2417	40.5	1254.0	25.1	56.3	74.4	101.9	128.0	4144.0	9689.0
31009192840000	-79.05720	42.2253	37.1	1165.0	24.2	54.1	71.5	98.0	123.1	4365.0	10026.0
31009192880000	-78.98020	42.2191	40.8	1277.4	24.9	55.5	73.7	100.9	126.7	4148.0	9695.0
31009193380000	-79.04180	42.3988	32.6	1031.4	22.9	51.4	67.7	93.0	117.1	4685.0	10495.0
31009197300000	-78.43510	42.5038	36.8	1142.1	24.4	54.7	72.0	98.7	124.0	4352.0	10008.0
31009197440000	-79.04100	42.2147	37.3	1174.7	24.1	53.9	71.3	97.7	122.8	4371.0	10036.0
31009197770000	-78.95961	42.2325	43.7	1361.2	25.5	51.5	74.9	100.9	125.6	3475.0	8589.0
31009197770000	-78.95960	42.2325	43.7	1359.4	25.5	57.3	76.1	104.1	130.5	3988.0	9443.0
31009197780000	-78.96700	42.2253	42.5	1324.7	25.3	56.6	75.1	102.8	128.9	4051.0	9543.0
31009197790000	-78.93950	42.2355	42.3	1310.3	25.4	56.7	75.3	103.0	129.2	4035.0	9518.0
31009198050000	-79.01830	42.1673	40.6	1265.5	25.0	55.9	74.0	101.4	127.2	4141.0	9685.0
31009199120000	-79.00730	42.1648	40.8	1280.5	24.8	55.6	73.8	101.0	126.8	4154.0	9704.0
31009199560000	-78.98167	42.2467	40.6	1266.7	25.0	49.8	72.5	97.6	121.5	3630.0	8855.0
31009199560000	-78.98170	42.2467	40.6	1266.8	25.0	55.9	74.0	101.4	127.2	4143.0	9687.0
31009199570000	-79.01280	42.2538	33.9	845.8	29.5	56.2	80.6	108.8	135.4	3042.0	7809.0
31009199570000	-79.01280	42.2538	33.9	845.8	29.5	63.5	81.0	111.4	139.8	3923.0	9339.0
31009199780000	-79.02450	42.2422	38.0	1186.9	24.5	54.8	72.3	99.2	124.6	4297.0	9925.0
31009199790000	-79.04810	42.2459	36.3	1141.2	23.9	53.6	70.7	97.0	121.9	4425.0	10117.0
31009199840000	-78.94600	42.2532	42.3	1311.9	25.4	56.8	75.3	103.1	129.3	4051.0	9544.0
31009199850000	-79.01650	42.2367	39.6	1230.2	24.9	49.0	71.7	96.4	120.0	3669.0	8921.0
31009199850000	-79.01650	42.2367	39.6	1230.8	24.9	55.9	73.8	101.1	126.9	4200.0	9775.0
31009200670000	-79.05151	42.2411	40.2	1144.5	27.3	52.6	76.3	102.7	127.7	3330.0	8335.0
31009200670000	-79.05150	42.2411	40.2	1144.5	27.3	61.1	79.3	108.8	136.5	3924.0	9340.0
31009201780000	-78.47550	42.5241	32.3	1048.2	22.2	49.8	66.0	90.7	114.2	4773.0	10620.0
31009201980000	-78.48710	42.5175	32.1	1036.9	22.3	50.0	66.2	91.0	114.6	4768.0	10612.0
31009202820000	-78.43650	42.5177	34.9	1118.9	23.1	52.1	68.8	94.4	118.8	4584.0	10349.0
31009202830000	-79.01920	42.4970	23.3	761.4	18.7	41.9	56.3	77.5	98.2	5499.0	11589.0
31009203610000	-78.42940	42.5186	35.8	1147.0	23.4	52.4	69.4	95.2	119.7	4508.0	10239.0

31009203690000	-79.04400	42.4957	22.7	761.7	18.0	40.3	54.5	75.1	95.1	5599.0	11714.0
31009207190000	-78.46700	42.5168	32.1	1033.6	22.3	50.0	66.2	90.9	114.5	4761.0	10603.0
31009207200000	-78.47200	42.5138	32.3	1046.4	22.2	49.8	66.1	90.7	114.2	4771.0	10617.0
31009207400000	-78.49970	42.5041	31.5	1033.0	21.8	47.7	64.0	87.8	110.5	4826.0	10694.0
31009207830000	-78.48130	42.5151	31.5	1031.8	21.8	48.9	64.9	89.2	112.4	4845.0	10721.0
31009207860000	-78.49640	42.4943	32.7	1080.5	21.9	49.2	65.5	89.9	113.2	4787.0	10640.0
31009208510000	-78.62800	42.3943	28.0	936.4	20.3	44.4	60.0	82.3	103.8	5143.0	11127.0
31009208640000	-78.51650	42.4840	35.4	1160.4	22.8	50.6	67.6	92.6	116.5	4579.0	10343.0
31009208970000	-78.68590	42.4365	36.2	1179.0	23.1	51.8	68.9	94.4	118.7	4531.0	10272.0
31009208980000	-78.69800	42.4414	32.8	1085.4	21.9	49.0	65.4	89.7	112.9	4786.0	10638.0
31009209070000	-78.67660	42.4167	42.3	1221.0	27.3	60.6	79.4	108.8	136.4	3834.0	9194.0
31009209080000	-78.69130	42.4226	33.6	1105.2	22.3	49.9	66.4	91.0	114.6	4717.0	10541.0
31009209140000	-79.00050	42.3494	32.4	1060.7	22.1	49.6	65.8	90.3	113.8	4777.0	10626.0
31009209240000	-78.98770	42.3531	32.4	1058.3	22.1	49.6	65.9	90.4	113.9	4776.0	10624.0
31009209530000	-78.57930	42.4372	37.3	1218.9	23.2	52.0	69.3	94.9	119.3	4471.0	10184.0
31009209890000	-78.98150	42.3525	32.4	1058.3	22.1	49.6	65.9	90.4	113.9	4776.0	10624.0
31009211140000	-78.49030	42.5096	30.0	963.8	21.8	48.7	64.5	88.7	111.8	4898.0	10794.0
31009211740000	-78.62990	42.3995	38.9	1264.3	23.7	53.8	71.1	97.5	122.5	4410.0	10094.0
31009211990000	-78.89480	42.3278	37.6	1198.8	23.8	53.4	70.8	97.1	122.0	4386.0	10058.0
31009212020000	-78.96980	42.3610	31.7	1047.0	21.7	48.6	64.7	88.8	111.9	4853.0	10731.0
31009217630000	-78.60090	42.4310	33.4	1220.1	20.0	44.8	61.1	83.6	105.3	5005.0	10941.0
31009217690000	-78.63070	42.4235	26.5	1116.2	15.7	35.1	49.7	68.0	86.2	5787.0	11945.0
31009217740000	-78.89480	42.3315	33.1	1244.5	19.4	43.6	59.7	81.7	102.9	5098.0	11066.0
31009217750000	-78.65790	42.4199	32.5	1241.2	19.0	42.6	58.5	80.1	101.0	5174.0	11168.0
31009217860000	-78.67420	42.4445	31.6	1169.5	19.4	43.4	59.3	81.2	102.4	5146.0	11130.0
31009218090000	-78.67198	42.3954	66.0	2167.1	26.3	57.9	81.6	110.6	137.8	3234.0	8161.0
31009218090000	-78.67198	42.3954	32.7	1165.9	20.3	39.7	59.4	79.6	99.4	4644.0	10436.0
31009218090000	-78.67200	42.3954	65.9	2164.1	26.3	61.5	82.6	112.7	140.9	3527.0	8679.0
31009218090000	-78.67200	42.3954	32.7	1162.8	20.4	43.1	60.9	82.8	103.9	4773.0	10620.0
31009218300000	-79.05070	42.2798	35.2	1103.4	23.8	53.0	70.0	96.0	120.7	4472.0	10186.0
31009218600000	-78.60406	42.4906	42.7	993.0	33.9	64.7	90.6	122.6	152.5	2596.0	6938.0
31009218600000	-78.60410	42.4906	52.7	1861.4	23.5	54.8	73.5	100.5	126.0	4166.0	9723.0
31009218690000	-78.50829	42.5003	46.6	1082.0	34.8	67.0	94.2	127.4	158.3	2417.0	6567.0
31009218690000	-78.50830	42.5003	56.3	1944.3	24.3	56.8	76.1	104.0	130.3	3989.0	9445.0
31009218890000	-78.83880	42.4376	30.5	999.1	21.5	48.3	64.1	88.1	111.0	4917.0	10821.0

31009218910000	-79.05290	42.2820	43.8	1121.7	31.0	69.5	88.8	121.9	152.7	3455.0	8555.0
31009219330000	-79.04960	42.2736	34.9	1116.8	23.2	51.8	68.6	94.2	118.4	4563.0	10320.0
31009219800000	-79.04250	42.2770	42.4	1140.0	29.3	65.6	84.4	115.8	145.2	3656.0	8899.0
31009219980000	-78.56440	42.0859	32.1	1074.4	21.5	47.7	64.0	87.8	110.5	4857.0	10737.0
31009220380000	-78.87830	42.3600	34.1	1021.7	24.6	54.4	71.4	98.0	123.2	4415.0	10102.0
31009220540000	-78.82820	42.4462	28.3	917.9	21.0	47.0	62.4	85.9	108.3	5060.0	11015.0
31009220550000	-78.87270	42.3602	42.0	1069.2	30.9	69.0	87.9	120.7	151.2	3530.0	8685.0
31009220690000	-78.85720	42.3434	43.7	1070.2	32.4	72.3	91.6	125.9	157.6	3340.0	8352.0
31009220800000	-78.87110	42.4218	30.5	1077.8	19.9	44.6	60.3	82.8	104.4	5116.0	11090.0
31009220810000	-78.56530	42.0760	33.6	1281.4	19.2	43.2	59.3	81.1	102.2	5115.0	11089.0
31009221110000	-78.87660	42.3643	34.3	990.9	25.5	56.1	73.2	100.5	126.3	4307.0	9940.0
31009221630000	-79.00640	42.2802	32.3	1208.2	19.3	43.3	59.2	81.1	102.2	5136.0	11117.0
31009223080000	-78.99840	42.2959	40.7	1179.9	26.8	60.2	78.5	107.6	135.0	3954.0	9389.0
31009223470000	-78.59100	42.0448	42.7	1343.0	25.1	56.7	75.0	102.7	128.9	4107.0	9632.0
31009224490000	-79.03490	42.2928	29.5	1179.0	17.4	39.1	54.3	74.4	94.0	5471.0	11553.0
31009225510000	-78.54330	42.0917	29.8	1122.3	18.5	41.5	56.9	78.0	98.5	5319.0	11358.0
31009225660000	-78.47160	42.5074	30.6	1047.6	20.6	46.2	62.0	85.1	107.3	5019.0	10959.0
31009225660000	-78.47160	42.5074	26.6	1038.8	16.9	37.8	52.6	72.1	91.3	5613.0	11731.0
31009225930000	-78.66850	42.4266	31.5	1200.3	18.7	42.5	58.0	79.5	100.4	5262.0	11283.0
31009225930000	-78.66850	42.4266	36.3	1186.6	23.0	52.1	68.9	94.6	118.9	4566.0	10324.0
31009225970000	-78.66600	42.4222	37.0	1201.2	23.4	52.7	69.8	95.7	120.3	4491.0	10213.0
31009225970000	-78.66600	42.4222	24.6	889.7	17.5	37.4	52.6	71.9	90.9	5532.0	11629.0
31009226040000	-78.67340	42.4266	24.8	906.2	17.4	37.5	52.3	71.7	90.7	5588.0	11701.0
31009226570000	-78.43570	42.5072	26.6	837.6	21.0	45.0	60.8	83.4	105.2	5046.0	10996.0
31009233310000	-79.04720	42.3332	37.2	1042.4	27.1	60.6	78.2	107.4	134.8	4061.0	9560.0
31009234350000	-78.51136	42.0284	83.1	2844.7	26.1	56.0	84.3	112.9	139.9	2790.0	7373.0
31009234350000	-78.51136	42.0284	53.9	1592.9	28.2	54.0	82.6	110.7	136.7	2866.0	7203.0
31009234350000	-78.51140	42.0284	83.1	2844.1	26.1	60.9	84.6	114.9	143.3	3192.0	8086.0
31009234350000	-78.51140	42.0284	53.9	1592.3	28.2	60.0	84.2	114.1	142.1	3060.0	7842.0
31009234470000	-78.84740	42.4345	45.8	1024.1	36.0	80.6	100.5	138.2	172.9	3018.0	7763.0
31009234520000	-78.96660	42.3415	36.5	1075.3	25.6	57.3	74.7	102.5	128.8	4233.0	9827.0
31009234560000	-78.52277	42.4976	63.4	2001.0	27.2	59.1	82.9	112.3	140.0	3174.0	8052.0
31009234560000	-78.52280	42.4976	63.5	2011.4	27.1	60.9	83.7	113.8	142.1	3249.0	8190.0
31009234560100	-78.52277	42.4976	56.2	2005.0	23.6	51.3	72.9	98.6	123.1	3796.0	9133.0
31009234560100	-78.52280	42.4976	56.5	2028.4	23.4	52.7	73.4	99.7	124.6	3876.0	9264.0

31009234680000	-78.96520	42.3782	35.6	1044.6	25.4	57.0	74.1	101.8	127.9	4290.0	9914.0
31009234690000	-78.96520	42.3714	35.4	1030.2	25.6	57.4	74.5	102.3	128.6	4281.0	9900.0
31009234860000	-78.97660	42.3756	34.8	1026.3	25.1	56.2	73.2	100.5	126.4	4354.0	10010.0
31009234970000	-78.96030	42.4059	32.6	1032.7	22.9	51.3	67.7	92.9	117.0	4682.0	10491.0
31009240260000	-79.05761	42.4986	20.8	781.8	15.1	28.7	43.9	59.3	74.8	5986.0	12183.0
31009240310000	-79.05466	42.4863	21.4	821.7	15.0	28.8	44.1	59.5	75.1	5978.0	12173.0
31009240660000	-79.02891	42.5099	20.6	734.6	15.9	30.4	45.9	61.9	78.1	5835.0	12003.0
31009241390000	-78.56420	42.0258	19.4	613.3	16.9	37.7	51.3	70.9	90.0	5820.0	11984.0
31009241420000	-78.56700	42.0272	17.7	614.8	14.2	31.4	44.7	61.7	78.6	6143.0	12365.0
31009241440000	-78.56660	42.0285	19.9	646.2	16.8	37.7	51.4	71.0	90.1	5815.0	11979.0
31009241460000	-78.45370	42.0016	42.4	1414.3	23.6	53.1	71.3	97.5	122.4	4254.0	9859.0
31009241820002	-78.97010	42.3715	37.9	1010.1	28.6	64.0	81.8	112.4	141.0	3889.0	9284.0
31009241830002	-78.97640	42.3720	36.5	1029.0	26.7	59.9	77.2	106.1	133.3	4131.0	9668.0
31009242210000	-78.45410	42.0021	28.8	1434.1	13.8	31.0	45.5	62.0	78.6	6042.0	12248.0
31009242240000	-79.04760	42.3506	36.5	1030.8	26.7	59.8	77.2	106.0	133.2	4129.0	9665.0
31009242250000	-78.45410	42.0025	28.2	1389.9	13.8	31.0	45.5	62.0	78.5	6038.0	12243.0
31009242840000	-78.99348	42.4890	21.0	800.1	15.1	28.7	44.1	59.4	74.9	5979.0	12175.0
31009243680000	-78.53580	42.0217	33.2	1436.2	16.9	38.9	54.2	74.2	93.8	5513.0	11606.0
31009245800000	-78.92100	42.4071	34.9	994.0	26.0	58.3	75.3	103.5	130.1	4254.0	9858.0
31009245810000	-78.91610	42.4108	33.2	996.1	24.3	54.6	71.2	97.8	123.0	4501.0	10229.0
31009245910001	-78.91970	42.3805	37.0	1068.6	26.2	58.6	76.1	104.5	131.2	4151.0	9701.0
31009248180000	-78.74620	42.4564	27.8	1042.4	18.0	40.3	55.4	76.0	96.1	5444.0	11519.0
31009248190000	-78.74200	42.4592	27.4	1019.3	18.1	40.5	55.6	76.3	96.4	5439.0	11513.0
31009248200000	-78.73780	42.4563	36.0	996.1	27.1	60.7	78.1	107.3	134.8	4101.0	9622.0
31009250750000	-79.01960	42.3177	28.8	1118.3	17.7	39.6	54.8	75.1	94.8	5458.0	11536.0
31009250780001	-79.03420	42.3124	31.8	1083.0	21.1	47.0	63.1	86.6	109.1	4922.0	10828.0
31009250790000	-79.01930	42.3219	28.7	1113.1	17.7	39.7	54.8	75.1	95.0	5457.0	11536.0
31009250910000	-79.04850	42.2915	46.4	1107.3	33.8	75.5	95.5	131.1	164.1	3147.0	8003.0
31009250920000	-79.04820	42.2962	28.5	1099.7	17.8	39.7	54.9	75.2	95.0	5454.0	11531.0
31009251050000	-79.05340	42.2947	28.6	1102.5	17.7	39.8	54.9	75.3	95.1	5455.0	11532.0
31009252710000	-79.01540	42.5065	23.6	748.3	19.5	43.8	58.3	80.3	101.6	5399.0	11461.0
31009252720000	-79.01140	42.5203	23.0	704.7	19.8	44.4	58.7	81.0	102.5	5391.0	11451.0
31009252730000	-79.02440	42.5123	23.5	739.4	19.6	43.9	58.4	80.5	101.8	5398.0	11459.0
31009252740000	-79.02330	42.5166	23.4	733.4	19.6	44.0	58.4	80.6	101.9	5396.0	11458.0
31009253010001	-79.01900	42.3347	45.8	1058.3	34.7	77.7	97.6	134.1	167.8	3104.0	7923.0

31009253290000	-79.00560	42.5114	23.3	725.7	19.7	44.1	58.5	80.7	102.1	5395.0	11455.0
31009254590000	-78.90700	42.2396	69.7	2218.9	27.4	59.2	84.4	114.1	142.0	3001.0	7731.0
31009254590000	-78.90700	42.2396	69.7	2218.9	27.4	61.4	85.4	116.0	144.6	3071.0	7861.0
31009254650000	-78.66860	42.4228	31.3	896.1	24.9	53.5	70.7	97.0	121.9	4373.0	10039.0
31009254740000	-79.00330	42.5202	23.1	709.9	19.8	44.4	58.7	81.0	102.5	5392.0	11453.0
31009254760000	-78.89860	42.3893	38.3	1084.2	27.0	60.7	78.4	107.7	135.2	4029.0	9508.0
31009255000000	-79.01290	42.3546	34.9	1034.2	25.0	56.0	73.0	100.3	126.1	4360.0	10019.0
31009255010000	-79.00810	42.3401	28.0	1063.8	17.9	40.1	55.2	75.7	95.7	5447.0	11523.0
31009255030000	-78.57180	42.4959	67.2	1926.3	30.2	67.7	91.8	125.0	156.0	2849.0	7439.0
31009256980000	-78.74690	42.4372	28.1	1068.3	17.9	40.1	55.2	75.7	95.6	5449.0	11524.0
31009258580000	-78.40300	42.0264	18.4	695.6	13.6	30.2	43.5	60.0	76.5	6197.0	12427.0
31009259710000	-78.98550	42.4107	29.5	1007.7	20.4	45.7	61.3	84.1	106.1	5095.0	11063.0
31009275490000	-78.98870	42.4078	34.7	1021.7	25.1	56.3	73.2	100.6	126.4	4353.0	10008.0
31011046240000	-76.49069	43.2526	31.2	931.2	23.9	52.4	68.9	94.5	118.9	4650.0	10445.0
31011046240000	-76.49070	43.2526	31.2	931.2	23.9	52.0	68.6	94.1	118.4	4627.0	10412.0
31011050000000	-76.55238	43.1051	33.3	1143.6	21.2	46.4	63.2	86.4	108.7	4867.0	10752.0
31011050000000	-76.55240	43.1051	33.3	1143.6	21.2	46.4	63.2	86.4	108.6	4867.0	10751.0
31011050110000	-76.55314	43.1462	27.3	1089.1	16.8	36.8	51.9	71.1	89.8	5628.0	11749.0
31011050110000	-76.55310	43.1462	27.3	1089.4	16.8	36.5	51.7	70.7	89.4	5620.0	11740.0
31011111290000	-76.54768	43.1207	27.9	931.2	20.3	43.7	60.0	82.1	103.3	5058.0	11013.0
31011111290000	-76.54770	43.1207	27.9	931.2	20.3	44.1	59.8	82.0	103.5	5154.0	11141.0
31011121490000	-76.29300	42.6415	45.4	1384.4	26.3	52.5	77.3	103.6	128.7	3344.0	8359.0
31011121490000	-76.29300	42.6415	45.4	1386.8	26.3	57.2	77.1	105.1	131.6	3843.0	9210.0
31011135540000	-76.69000	42.9357	24.5	624.5	24.9	54.3	69.4	95.7	120.6	4837.0	10710.0
31011135870000	-76.68780	42.9011	19.5	605.3	17.4	37.8	51.7	71.3	90.5	5767.0	11920.0
31011135990000	-76.69923	42.9085	18.2	646.5	14.2	28.4	43.5	58.8	74.3	6057.0	12266.0
31011135990000	-76.69920	42.9085	19.3	646.8	16.0	35.0	48.7	67.2	85.4	5923.0	12108.0
31011136370000	-76.70522	42.9194	22.0	621.5	20.9	41.8	59.6	80.9	101.5	4822.0	10689.0
31011136370000	-76.70520	42.9194	22.0	621.5	20.9	45.5	60.0	82.7	104.6	5323.0	11363.0
31011136380000	-76.69513	42.9162	20.7	626.7	18.6	37.3	54.2	73.4	92.3	5235.0	11249.0
31011136380000	-76.69510	42.9162	20.7	626.7	18.6	40.7	54.9	75.7	95.9	5604.0	11719.0
31011136460000	-76.66870	42.9107	20.5	613.6	18.7	40.8	54.9	75.7	95.9	5600.0	11715.0
31011136550000	-76.66780	42.9251	17.8	622.4	14.2	30.9	44.4	61.2	78.0	6138.0	12359.0
31011137390000	-76.68600	42.8759	23.0	672.1	20.9	46.0	60.6	83.5	105.5	5300.0	11333.0
31011155010000	-76.70240	42.9121	27.5	602.0	30.8	66.5	82.5	113.7	143.0	4181.0	9747.0

31011155290000	-76.69730	42.7414	31.1	800.4	27.6	59.9	76.6	105.4	132.4	4279.0	9897.0
31011155830000	-76.68730	42.8652	22.4	734.6	18.3	41.1	55.2	76.1	96.5	5620.0	11740.0
31011159620000	-76.66755	42.8604	26.2	607.8	28.3	57.3	79.0	107.2	133.8	3481.0	8599.0
31011159620000	-76.66760	42.8604	26.2	607.2	28.4	61.0	76.7	105.7	133.0	4438.0	10135.0
31011159630000	-76.70850	42.8132	23.0	624.8	22.5	48.8	63.6	87.6	110.6	5123.0	11100.0
31011161150000	-76.63110	42.6480	32.6	1160.7	20.4	44.3	61.0	83.3	104.8	4981.0	10908.0
31011161180000	-76.62825	42.7511	40.2	1274.4	24.5	50.0	72.1	97.2	121.1	3812.0	9159.0
31011161180000	-76.62830	42.7511	40.2	1274.4	24.5	53.3	71.9	98.1	123.0	4221.0	9808.0
31011161190000	-76.45449	42.6607	37.5	1332.0	21.4	42.1	63.8	85.2	105.9	4290.0	9914.0
31011161190000	-76.45450	42.6607	37.6	1334.7	21.4	46.6	64.4	87.7	110.1	4680.0	10489.0
31011161200000	-76.56798	42.7202	64.3	2239.1	24.7	54.4	77.6	104.8	130.5	3538.0	8698.0
31011161200000	-76.56798	42.7202	17.2	692.5	11.9	25.0	40.3	53.6	67.4	6369.0	12665.0
31011161200000	-76.56800	42.7202	64.3	2240.3	24.7	57.6	78.1	106.3	133.0	3868.0	9250.0
31011163340000	-76.57850	42.8003	29.9	993.7	21.0	45.6	61.7	84.6	106.5	4997.0	10930.0
31011168440000	-76.58150	42.8258	22.4	935.7	14.3	31.2	45.3	62.1	78.9	6047.0	12254.0
31011169910000	-76.69310	42.8539	22.3	656.8	20.2	43.9	58.5	80.5	101.9	5385.0	11442.0
31011175080000	-76.56140	43.1291	48.0	1061.3	36.8	79.7	101.1	138.4	172.9	2888.0	7515.0
31011175080000	-76.56140	43.1291	34.3	1115.0	22.7	49.7	66.8	91.4	114.9	4665.0	10467.0
31011175080000	-76.56140	43.1291	48.0	1061.9	36.8	79.5	100.9	138.1	172.5	2883.0	7506.0
31011175100000	-76.55184	43.1384	36.5	1112.2	24.7	54.3	71.9	98.4	123.6	4368.0	10031.0
31011175100000	-76.55180	43.1384	36.4	1105.8	24.8	54.4	72.0	98.5	123.7	4359.0	10018.0
31011175100000	-76.55180	43.1384	33.8	1035.1	23.9	51.6	68.9	94.3	118.5	4510.0	10242.0
31011175170000	-76.68240	42.9546	19.3	611.1	16.9	36.8	50.7	69.8	88.7	5821.0	11986.0
31011175550000	-76.49670	42.9956	19.5	623.0	16.9	36.0	50.0	68.9	87.4	5817.0	11981.0
31011175560000	-76.48620	42.9235	22.8	765.1	18.0	39.1	53.7	73.8	93.4	5600.0	11715.0
31011175570000	-76.53590	42.8575	24.6	818.1	19.1	41.6	56.5	77.7	98.2	5408.0	11473.0
31011175580000	-76.52119	43.0112	53.2	1388.4	31.9	69.9	91.8	125.3	156.5	3118.0	7950.0
31011175580000	-76.52120	43.0112	53.2	1389.3	31.8	69.4	91.6	125.0	156.0	3088.0	7894.0
31011175590000	-76.69949	42.9244	44.9	1532.2	23.4	51.2	70.6	96.0	120.2	4209.0	9789.0
31011175590000	-76.69950	42.9244	44.9	1532.2	23.4	54.2	71.8	98.3	123.4	4459.0	10167.0
31011204220000	-76.68390	42.8624	20.4	609.0	18.7	40.6	54.8	75.5	95.6	5598.0	11713.0
31011204370000	-76.67568	42.9094	21.0	609.0	19.7	39.5	56.9	77.1	96.8	5029.0	10974.0
31011204370000	-76.67570	42.9094	21.0	611.4	19.6	42.8	57.0	78.6	99.5	5489.0	11575.0
31011205720000	-76.68690	42.8687	20.8	608.4	19.4	41.9	56.2	77.5	98.1	5519.0	11614.0
31011206060000	-76.67500	42.8787	17.5	602.0	14.2	30.7	44.1	60.9	77.5	6148.0	12371.0

31011206240000	-76.63350	42.9110	18.5	632.2	15.1	33.0	46.6	64.2	81.7	6030.0	12234.0
31011206470000	-76.62810	42.9098	19.4	618.4	16.9	36.5	50.4	69.4	88.1	5819.0	11983.0
31011206490000	-76.63390	42.9063	21.5	640.7	19.4	42.4	56.7	78.2	98.9	5492.0	11580.0
31011206500000	-76.62640	42.9055	18.2	646.5	14.2	31.0	44.5	61.4	78.2	6127.0	12347.0
31011206510000	-76.61260	42.9013	20.9	712.9	16.7	36.4	50.5	69.5	88.1	5806.0	11968.0
31011206530000	-76.59830	42.8928	21.0	684.6	17.5	38.1	52.3	72.0	91.3	5704.0	11843.0
31011206540000	-76.61910	42.8831	24.9	687.0	23.2	50.1	65.4	90.0	113.5	4965.0	10887.0
31011206560000	-76.67090	42.8708	18.0	632.8	14.2	31.0	44.5	61.3	78.1	6133.0	12354.0
31011206570000	-76.63330	42.8837	24.8	715.4	22.1	48.6	63.6	87.6	110.6	5109.0	11082.0
31011206630000	-76.62040	42.8907	23.8	687.0	21.6	47.2	62.0	85.4	107.9	5187.0	11185.0
31011206660000	-76.66610	42.8539	19.0	659.6	15.1	32.9	46.6	64.2	81.7	6021.0	12223.0
31011206710000	-76.61110	42.8926	21.1	687.6	17.5	38.2	52.3	72.1	91.4	5704.0	11843.0
31011206720000	-76.62220	42.8972	18.9	616.0	16.0	34.0	47.9	65.9	83.8	5929.0	12115.0
31011206750000	-76.60550	42.8923	25.7	737.6	22.6	49.7	64.9	89.3	112.7	5013.0	10952.0
31011206790000	-76.58560	42.9042	24.4	723.0	21.2	46.1	61.1	84.1	106.3	5188.0	11187.0
31011206950000	-76.68840	42.8180	26.0	756.8	22.4	49.0	64.3	88.5	111.7	5010.0	10947.0
31011212390000	-76.61460	42.8889	21.7	694.3	18.3	39.9	54.2	74.6	94.5	5599.0	11714.0
31011212400000	-76.63530	42.8678	24.9	687.6	23.2	50.5	65.7	90.4	114.1	4971.0	10895.0
31011212430000	-76.62390	42.8560	24.1	741.6	20.3	44.3	59.2	81.4	102.9	5296.0	11329.0
31011212520000	-76.61350	42.8845	20.9	715.7	16.7	36.3	50.4	69.3	88.0	5804.0	11965.0
31011212530000	-76.67720	42.8163	23.4	731.5	19.7	42.7	57.4	79.0	99.9	5395.0	11456.0
31011212550000	-76.62600	42.8730	26.8	702.9	25.4	55.2	70.9	97.6	122.9	4675.0	10480.0
31011212560000	-76.64480	42.9007	19.3	611.4	16.9	36.8	50.7	69.8	88.7	5821.0	11986.0
31011212570000	-76.63230	42.8894	21.2	662.0	18.5	40.2	54.5	75.1	95.1	5600.0	11715.0
31011212660000	-76.61630	42.9054	20.7	663.9	17.6	38.1	52.3	72.0	91.3	5705.0	11844.0
31011212670000	-76.62040	42.9016	21.5	678.5	18.4	40.2	54.5	75.0	95.1	5605.0	11721.0
31011212710000	-76.59370	42.8809	24.4	762.6	20.2	44.0	58.9	81.0	102.4	5302.0	11335.0
31011212760000	-76.63100	42.8705	18.8	688.9	14.3	31.1	44.7	61.6	78.4	6111.0	12328.0
31011212800000	-76.59320	42.8899	20.2	706.2	15.9	34.4	48.4	66.6	84.6	5906.0	12088.0
31011212830000	-76.63060	42.8650	20.2	703.5	15.9	34.6	48.5	66.8	84.8	5907.0	12088.0
31011212880000	-76.60910	42.8492	21.0	719.9	16.6	35.2	49.5	68.0	86.3	5800.0	11960.0
31011213260000	-76.61410	42.8461	20.2	778.8	14.4	31.3	45.1	61.9	78.8	6081.0	12294.0
31011213270000	-76.60840	42.8443	20.9	792.5	15.1	32.8	46.8	64.3	81.7	5984.0	12180.0
31011213280000	-76.62850	42.8385	20.4	758.0	15.1	32.8	46.7	64.3	81.7	5992.0	12190.0
31011213470000	-76.60340	42.8511	20.2	782.7	14.4	31.2	45.1	61.9	78.8	6080.0	12293.0

31011213530000	-76.66580	42.8191	23.2	740.4	19.2	41.7	56.4	77.6	98.2	5447.0	11522.0
31011213620000	-76.66350	42.8145	20.0	767.5	14.4	31.2	45.0	61.8	78.6	6085.0	12298.0
31011213790000	-76.62100	42.8464	22.8	768.7	18.0	39.1	53.7	73.8	93.4	5600.0	11715.0
31011214010000	-76.67110	42.8160	28.6	730.0	26.9	58.3	74.5	102.5	128.9	4448.0	10151.0
31011214020000	-76.67450	42.8205	22.0	711.1	18.2	39.5	54.0	74.2	94.0	5598.0	11713.0
31011214030000	-76.66910	42.8230	22.7	720.9	19.0	41.2	55.8	76.8	97.1	5497.0	11585.0
31011216940000	-76.67860	42.9068	19.3	609.0	16.9	36.8	50.7	69.9	88.7	5821.0	11986.0
31011228220000	-76.54987	43.0945	32.9	1093.6	21.8	46.8	63.8	87.2	109.6	4779.0	10629.0
31011228220000	-76.54990	43.0945	32.9	1092.7	21.9	47.6	64.4	88.1	110.8	4791.0	10645.0
31011228720000	-76.49730	42.9684	23.1	716.0	19.8	42.7	57.5	79.1	100.0	5391.0	11451.0
31011229070000	-76.63140	42.8951	20.2	669.7	16.8	36.6	50.5	69.6	88.4	5811.0	11974.0
31011231450000	-76.56155	43.1024	34.9	1123.8	23.1	50.3	67.7	92.5	116.3	4572.0	10333.0
31011231450000	-76.56160	43.1024	34.9	1121.4	23.1	50.8	68.0	93.0	116.9	4599.0	10372.0
31011231450100	-76.56155	43.1024	33.5	973.2	25.2	53.3	71.2	97.4	122.2	4299.0	9928.0
31011231450100	-76.56160	43.1024	34.4	1037.5	24.4	52.6	70.1	96.0	120.5	4430.0	10124.0
31011231580000	-76.54262	42.7850	61.5	1854.1	28.3	60.7	84.9	114.9	143.1	3136.0	7983.0
31011231580000	-76.54260	42.7850	61.8	1883.7	28.0	61.2	84.8	115.0	143.3	3193.0	8087.0
31011232200000	-76.54722	43.1290	24.6	894.3	17.5	37.6	53.0	72.4	91.4	5527.0	11624.0
31011232200000	-76.54722	43.1290	16.1	691.6	10.3	21.0	34.2	46.6	59.6	6537.0	12837.0
31011232200000	-76.54720	43.1290	25.0	922.9	17.4	38.4	53.1	72.9	92.2	5622.0	11742.0
31011238400000	-76.50601	42.6387	52.8	1934.3	22.7	48.8	72.0	96.6	120.1	3800.0	9139.0
31011238400000	-76.50600	42.6387	53.0	1950.4	22.6	47.4	69.7	93.6	116.5	3964.0	9406.0
31011238400100	-76.50601	42.6387	63.9	1925.1	28.5	61.3	88.6	119.3	148.0	2802.0	7352.0
31011238400100	-76.50600	42.6387	70.1	2789.2	21.9	49.6	72.0	97.0	120.8	3925.0	9342.0
31011238400200	-76.50600	42.6387	58.0	2607.9	18.8	42.1	62.2	83.5	104.3	4639.0	10429.0
31011238740000	-76.67860	42.8233	21.0	721.2	16.6	36.3	50.4	69.3	88.0	5804.0	11965.0
31011239820000	-76.51400	42.6371	51.5	1743.2	24.4	51.7	73.4	99.2	123.7	3817.0	9168.0
31011260010000	-76.69340	42.8192	26.7	691.9	25.5	55.2	70.9	97.6	122.9	4661.0	10461.0
31011260020000	-76.67010	42.8264	26.0	720.2	23.6	51.4	66.8	91.9	115.9	4886.0	10778.0
31011260040000	-76.65670	42.8183	31.0	838.2	26.3	57.9	74.3	102.2	128.5	4435.0	10131.0
31011260070000	-76.65810	42.8262	24.1	744.3	20.3	44.1	59.0	81.2	102.6	5295.0	11327.0
31011260250000	-76.68110	42.7810	30.1	887.3	23.8	51.7	68.1	93.4	117.6	4690.0	10502.0
31011260260000	-76.60550	42.8047	31.3	898.6	24.9	54.1	70.8	97.2	122.2	4522.0	10259.0
31011260270000	-76.64360	42.7116	38.8	1121.7	26.6	57.9	76.3	104.4	130.9	4047.0	9538.0
31011260280000	-76.64430	42.7923	32.0	903.7	25.4	55.3	72.2	99.1	124.5	4440.0	10138.0

31011261670000	-76.63740	42.8860	19.2	640.9	16.0	34.7	48.5	66.8	84.9	5922.0	12106.0
31011263490000	-76.69120	43.1644	34.3	1113.4	22.7	49.4	66.6	91.1	114.4	4643.0	10434.0
31011900010000	-76.54432	42.9448	56.7	1602.6	29.8	65.6	88.0	119.8	149.5	3207.0	8114.0
31011900010000	-76.54430	42.9448	56.7	1598.7	29.8	65.8	88.1	120.0	149.8	3213.0	8123.0
31011900010000	-76.54430	42.9448	55.1	1291.4	35.7	76.0	100.6	137.1	170.7	2594.0	6935.0
31013026550000	-79.08755	42.4320	28.6	937.9	20.9	41.3	59.4	80.4	100.8	4749.0	10587.0
31013026550000	-79.08760	42.4320	28.6	937.9	20.9	46.6	62.0	85.3	107.6	5065.0	11022.0
31013027120000	-79.20120	42.4962	20.1	643.7	17.3	38.4	52.2	72.0	91.4	5760.0	11912.0
31013027510000	-79.20250	42.5016	18.1	637.3	14.2	31.8	45.1	62.3	79.4	6131.0	12352.0
31013041520000	-79.73590	42.1634	42.8	1086.6	31.1	69.6	88.6	121.7	152.5	3483.0	8604.0
31013041540000	-79.13162	42.3421	65.4	1914.4	29.5	65.1	89.2	121.3	151.2	2927.0	7590.0
31013041540000	-79.13162	42.3421	34.6	1099.7	23.3	46.7	67.0	90.5	113.1	4126.0	9661.0
31013041540000	-79.13160	42.3421	65.4	1914.1	29.5	68.8	90.2	123.4	154.3	3222.0	8139.0
31013041540000	-79.13160	42.3421	34.6	1099.7	23.3	49.7	68.1	92.8	116.4	4339.0	9988.0
31013041900000	-79.53010	42.2864	29.2	1026.6	19.7	44.2	59.6	81.9	103.3	5185.0	11183.0
31013041900000	-79.53010	42.2864	24.8	1007.1	15.7	35.0	49.3	67.7	85.8	5826.0	11992.0
31013043470000	-79.67830	42.1601	30.8	1100.9	19.8	44.0	59.8	82.0	103.4	5118.0	11093.0
31013044370000	-79.33754	42.1836	80.1	2339.6	30.4	69.0	94.7	128.9	160.6	2647.0	7042.0
31013044370000	-79.33754	42.1836	35.0	1263.4	20.6	42.0	61.7	83.0	103.7	4533.0	10276.0
31013044370000	-79.33750	42.1836	80.1	2339.3	30.4	72.4	94.8	129.7	162.0	3013.0	7753.0
31013044370000	-79.33750	42.1836	35.0	1263.1	20.6	44.2	61.7	84.0	105.6	4771.0	10618.0
31013044600000	-79.26202	42.5212	48.4	1355.8	29.1	69.3	86.7	119.4	149.9	3882.0	9273.0
31013044600000	-79.26200	42.5212	48.4	1354.8	29.1	65.3	85.3	116.8	146.2	3482.0	8602.0
31013045350000	-79.26295	42.5115	37.6	1136.0	25.2	56.8	74.1	101.7	127.8	4263.0	9873.0
31013045350000	-79.26300	42.5115	37.6	1136.0	25.2	56.5	74.0	101.5	127.5	4245.0	9844.0
31013045610000	-79.41397	42.2400	36.7	1127.8	24.5	49.1	70.3	95.0	118.5	3872.0	9256.0
31013045610000	-79.41400	42.2400	45.5	1917.8	19.0	44.5	61.4	83.8	105.4	4958.0	10876.0
31013046710000	-79.42000	42.2399	38.8	1101.9	27.1	58.3	76.9	105.3	132.0	3934.0	9356.0
31013046710000	-79.42000	42.2399	37.9	1096.1	26.3	56.7	75.1	102.7	128.8	4042.0	9529.0
31013049480000	-79.38810	42.3873	29.5	849.8	24.2	54.1	70.0	96.3	121.3	4668.0	10471.0
31013049860000	-79.40910	42.4107	22.6	678.8	20.0	44.9	59.2	81.6	103.3	5388.0	11447.0
31013051290000	-79.40560	42.4270	20.7	646.9	18.1	39.2	53.3	73.4	93.1	5646.0	11771.0
31013052670000	-79.41940	42.4317	17.9	627.3	14.2	30.6	44.0	60.7	77.3	6141.0	12363.0
31013067450000	-79.18770	42.3785	31.0	981.5	22.5	51.3	66.9	92.1	116.1	4851.0	10729.0
31013067450000	-79.18770	42.3785	22.9	698.3	19.9	42.6	57.6	79.2	100.1	5308.0	11343.0

31013076490000	-79.16630	42.4072	32.3	1005.5	23.1	46.6	66.0	89.4	111.9	4272.0	9886.0
31013076490000	-79.16630	42.4072	32.3	1005.8	23.1	51.7	68.1	93.5	117.7	4664.0	10465.0
31013087560000	-79.18440	42.4132	32.1	954.0	24.2	54.3	70.6	97.1	122.2	4555.0	10308.0
31013087570000	-79.19560	42.4246	30.6	883.0	24.4	54.7	70.7	97.3	122.5	4597.0	10369.0
31013093550000	-79.40686	42.4372	43.5	1456.3	23.7	55.0	72.4	99.3	124.8	4387.0	10060.0
31013093550000	-79.40690	42.4372	43.4	1453.3	23.7	54.1	72.1	98.6	123.8	4292.0	9917.0
31013096160000	-79.33350	42.3737	33.1	988.8	24.4	54.8	71.4	98.1	123.4	4501.0	10229.0
31013096170000	-79.67640	42.1693	33.4	1093.9	22.4	49.8	66.3	90.9	114.5	4704.0	10523.0
31013096170000	-79.67640	42.1693	33.8	1082.3	23.0	50.9	67.7	92.8	116.7	4613.0	10393.0
31013096200000	-79.52320	42.2846	31.5	993.0	22.7	51.0	67.1	92.2	116.1	4751.0	10589.0
31013098670000	-79.53090	42.2783	30.8	1023.8	21.3	47.7	63.6	87.4	110.1	4924.0	10830.0
31013098680000	-79.34890	42.3652	31.1	1003.7	22.1	49.4	65.4	89.8	113.2	4832.0	10703.0
31013098690000	-79.32300	42.3863	33.9	919.3	27.0	60.6	77.4	106.6	133.9	4205.0	9784.0
31013098700000	-79.32010	42.3755	28.2	910.1	21.1	46.9	62.4	85.8	108.2	5053.0	11006.0
31013098710000	-79.66510	42.2476	35.7	1055.5	25.3	56.8	73.9	101.5	127.5	4301.0	9930.0
31013099390000	-79.37848	42.4158	45.9	1524.0	24.2	52.0	72.1	98.0	122.6	3967.0	9410.0
31013099390000	-79.37850	42.4158	45.9	1523.7	24.2	55.8	73.9	101.3	127.1	4205.0	9783.0
31013099400000	-79.40200	42.4065	22.0	716.9	18.2	40.8	54.9	75.7	95.9	5600.0	11715.0
31013099410000	-79.38690	42.4122	24.9	719.3	22.1	47.7	62.8	86.5	109.2	5063.0	11019.0
31013099430000	-79.42090	42.3946	24.9	719.9	22.0	49.2	64.1	88.3	111.5	5084.0	11048.0
31013099600000	-79.66510	42.2408	32.5	1067.7	22.1	49.3	65.6	90.0	113.4	4777.0	10625.0
31013099610000	-79.44572	42.3758	20.4	721.2	15.9	30.6	46.4	62.5	78.7	5796.0	11955.0
31013099610000	-79.44570	42.3758	27.8	733.0	25.7	57.5	73.0	100.6	126.8	4595.0	10366.0
31013099620000	-79.45630	42.3687	25.6	766.3	21.6	48.2	63.2	87.0	109.9	5100.0	11069.0
31013099630000	-79.66520	42.1783	38.7	1116.5	26.6	59.7	77.5	106.4	133.6	4043.0	9530.0
31013099640000	-79.65030	42.1662	34.1	1100.9	22.8	50.7	67.4	92.5	116.3	4627.0	10412.0
31013100250000	-79.47230	42.3638	28.5	779.4	25.1	56.1	71.8	98.9	124.6	4627.0	10413.0
31013100260000	-79.35200	42.3593	32.0	1025.4	22.4	50.2	66.4	91.2	114.9	4761.0	10603.0
31013100280000	-79.66790	42.2593	31.2	970.8	22.9	51.3	67.4	92.7	116.7	4734.0	10564.0
31013100300000	-79.68440	42.1824	34.5	1135.4	22.5	50.5	67.1	92.1	115.9	4656.0	10454.0
31013100310000	-79.67610	42.1803	33.2	1116.8	21.7	48.5	64.9	89.0	112.0	4801.0	10659.0
31013100320000	-79.46410	42.3723	26.0	760.5	22.4	50.2	65.2	89.9	113.5	5005.0	10941.0
31013100330000	-79.29770	42.3793	31.7	923.2	24.6	55.1	71.4	98.2	123.5	4538.0	10283.0
31013100650000	-79.65790	42.2464	31.4	1062.2	21.1	47.1	63.1	86.6	109.2	4941.0	10853.0
31013100660000	-79.66940	42.1710	37.6	1118.0	25.6	57.4	75.0	102.9	129.2	4188.0	9757.0

31013100670000	-79.67660	42.1640	35.6	1134.2	23.5	52.8	69.7	95.7	120.3	4511.0	10243.0
31013100680000	-79.52370	42.2789	33.7	1030.8	24.0	53.9	70.5	96.9	121.9	4531.0	10273.0
31013100690000	-79.32590	42.3780	32.6	952.5	24.8	55.7	72.1	99.2	124.8	4471.0	10185.0
31013100840000	-79.47500	42.3763	22.2	729.4	18.1	40.6	54.8	75.5	95.6	5599.0	11713.0
31013100850000	-79.45840	42.3503	29.0	893.4	22.4	50.1	65.8	90.4	114.0	4867.0	10751.0
31013100850000	-79.45840	42.3503	27.9	893.1	21.2	47.3	62.7	86.2	108.8	5048.0	11000.0
31013100860000	-79.66830	42.2351	33.6	1108.3	22.2	49.9	66.4	91.1	114.7	4727.0	10556.0
31013100890000	-79.67900	42.1546	33.6	1147.6	21.4	48.0	64.4	88.3	111.2	4817.0	10681.0
31013100900000	-79.69560	42.1618	36.6	1121.4	24.6	55.1	72.4	99.3	124.8	4338.0	9986.0
31013100910000	-79.35160	42.3720	36.2	1007.1	27.0	60.5	77.8	106.9	134.3	4113.0	9641.0
31013100930000	-79.41360	42.4247	21.2	658.1	18.5	41.5	55.5	76.5	97.0	5602.0	11717.0
31013101090000	-79.45420	42.3557	27.1	872.0	20.7	46.5	61.6	84.8	107.0	5137.0	11118.0
31013101100000	-79.67790	42.1747	40.4	1112.5	28.2	63.1	81.4	111.7	140.2	3831.0	9190.0
31013101110000	-79.36790	42.3656	31.7	1008.6	22.6	50.6	66.7	91.6	115.4	4751.0	10589.0
31013101450000	-79.43540	42.3649	27.2	878.7	20.7	46.5	61.6	84.8	107.0	5146.0	11130.0
31013101710000	-79.68590	42.2392	36.9	1022.3	27.3	61.2	78.8	108.2	135.9	4047.0	9538.0
31013101720000	-79.36200	42.3537	31.4	1020.2	21.9	49.1	65.1	89.5	112.7	4840.0	10714.0
31013101720000	-79.36200	42.3537	29.7	1019.9	20.3	45.4	61.0	83.8	105.7	5095.0	11062.0
31013101730000	-79.34790	42.3533	34.9	1035.1	25.0	56.0	73.0	100.3	126.0	4361.0	10021.0
31013101740000	-79.44870	42.3696	26.4	787.9	22.1	49.6	64.7	89.1	112.5	5014.0	10954.0
31013101750000	-79.67810	42.2435	37.6	1029.6	27.8	62.2	79.9	109.8	137.8	3981.0	9433.0
31013101760000	-79.64920	42.2508	38.3	1039.4	28.2	63.0	80.9	111.1	139.5	3912.0	9322.0
31013101770000	-79.65770	42.2384	35.2	1102.5	23.8	53.3	70.3	96.4	121.3	4482.0	10201.0
31013101780000	-79.64970	42.2433	35.1	1092.7	23.9	53.6	70.5	96.7	121.6	4477.0	10193.0
31013102500000	-79.66940	42.1601	35.5	1125.0	23.6	52.7	69.7	95.7	120.3	4490.0	10213.0
31013102510000	-79.65910	42.1823	36.3	1138.7	23.9	53.7	70.8	97.1	122.1	4430.0	10124.0
31013102520000	-79.65770	42.1746	37.6	1113.1	25.7	57.5	75.0	103.0	129.3	4183.0	9749.0
31013102530000	-79.44630	42.3547	30.3	905.0	23.6	52.8	68.7	94.5	119.1	4698.0	10514.0
31013102540000	-79.35510	42.3499	36.5	1030.2	26.7	59.7	77.1	106.0	133.1	4126.0	9661.0
31013102580000	-79.69360	42.2404	31.5	990.6	22.7	50.9	67.1	92.1	116.0	4743.0	10578.0
31013102580000	-79.69360	42.2404	35.9	984.2	27.3	61.1	78.4	107.7	135.3	4091.0	9607.0
31013102780000	-79.69860	42.1724	40.0	1126.2	27.5	61.6	79.8	109.5	137.4	3912.0	9322.0
31013102850000	-79.47890	42.3690	27.8	766.9	24.5	55.0	70.4	97.1	122.3	4721.0	10547.0
31013102860000	-79.48460	42.3566	25.2	781.8	20.8	46.4	61.3	84.4	106.6	5205.0	11209.0
31013102870000	-79.48800	42.3504	24.6	814.4	19.1	42.9	57.5	79.2	100.1	5408.0	11472.0

31013102880000	-79.46480	42.3518	24.0	852.8	17.6	39.3	53.8	74.0	93.7	5601.0	11716.0
31013102900000	-79.47980	42.3623	27.8	766.6	24.5	54.7	70.2	96.8	122.0	4711.0	10532.0
31013102920000	-79.67150	42.2458	32.2	1040.3	22.3	49.9	66.2	90.8	114.4	4766.0	10610.0
31013102930000	-79.67770	42.2481	26.1	1001.9	17.1	38.2	52.9	72.6	91.9	5611.0	11728.0
31013102980000	-79.36790	42.3502	36.4	1022.6	26.8	60.2	77.5	106.5	133.7	4135.0	9675.0
31013102990000	-79.33160	42.3605	30.6	962.0	22.4	50.2	66.1	90.9	114.5	4813.0	10676.0
31013103160000	-79.67280	42.2289	38.3	1080.2	27.1	60.7	78.5	107.8	135.3	4016.0	9489.0
31013103320000	-79.70410	42.1781	35.6	1128.7	23.5	52.8	69.8	95.7	120.4	4501.0	10228.0
31013103440000	-79.30140	42.3727	31.5	948.5	23.7	53.1	69.3	95.3	120.0	4636.0	10425.0
31013103450000	-79.69170	42.2456	33.7	985.7	25.0	56.1	72.8	100.0	125.8	4409.0	10092.0
31013103750000	-79.37740	42.4244	25.5	686.7	24.0	51.6	67.0	92.3	116.4	4815.0	10679.0
31013103820000	-79.65730	42.1596	36.1	1127.8	24.0	53.7	70.9	97.2	122.2	4414.0	10101.0
31013103930000	-79.37770	42.3507	30.7	975.4	22.3	49.8	65.8	90.4	113.9	4817.0	10681.0
31013103930000	-79.37770	42.3507	28.5	975.4	20.0	44.7	60.1	82.6	104.2	5165.0	11156.0
31013104060000	-79.69750	42.2489	31.0	956.2	23.0	51.4	67.5	92.8	116.9	4721.0	10546.0
31013104070000	-79.68540	42.2333	33.9	1043.6	23.9	53.4	70.1	96.3	121.1	4524.0	10263.0
31013104160000	-79.37230	42.3554	32.6	987.6	23.9	53.2	69.7	95.8	120.5	4568.0	10326.0
31013104170000	-79.31480	42.4233	22.2	728.2	18.2	40.5	54.7	75.3	95.4	5598.0	11712.0
31013104410000	-79.43780	42.3516	33.5	931.2	26.3	58.6	75.4	103.7	130.4	4286.0	9907.0
31013104480000	-79.38290	42.4193	24.6	698.6	22.3	47.7	63.0	86.7	109.4	5007.0	10944.0
31013104550000	-79.34070	42.4134	25.6	769.9	21.6	48.3	63.2	87.1	110.0	5104.0	11074.0
31013104560000	-79.38550	42.3617	29.1	1019.6	19.7	44.2	59.7	82.0	103.4	5182.0	11178.0
31013104570000	-79.68620	42.2284	29.7	1059.5	19.5	43.7	59.2	81.2	102.5	5192.0	11192.0
31013104580000	-79.69860	42.2371	31.9	976.9	23.4	52.4	68.7	94.4	118.9	4650.0	10446.0
31013104600000	-79.37540	42.3625	33.9	1006.8	24.8	55.5	72.3	99.3	124.9	4421.0	10111.0
31013104610000	-79.38010	42.3572	34.9	1038.2	25.0	56.2	73.0	100.4	126.2	4379.0	10048.0
31013104690000	-79.52750	42.2721	26.8	1052.5	16.9	37.9	52.7	72.2	91.4	5616.0	11735.0
31013104700000	-79.51630	42.2648	32.4	1060.4	22.1	49.6	65.8	90.3	113.8	4776.0	10624.0
31013104710000	-79.44680	42.3429	31.6	999.7	22.6	50.7	66.9	91.9	115.7	4748.0	10585.0
31013104790000	-79.36220	42.3460	26.3	1016.2	17.0	38.2	52.9	72.6	91.8	5613.0	11731.0
31013104840000	-79.48270	42.3473	29.0	852.5	23.5	52.6	68.3	94.0	118.5	4760.0	10602.0
31013104850000	-79.65800	42.2234	33.2	1114.7	21.7	47.3	64.0	87.7	110.3	4780.0	10629.0
31013104860000	-79.64900	42.2212	37.8	1133.3	25.5	57.0	74.6	102.4	128.6	4198.0	9773.0
31013104890000	-79.49070	42.3437	24.1	856.5	17.6	39.4	53.9	74.1	93.9	5602.0	11717.0
31013104910000	-79.44870	42.4057	22.2	690.4	19.1	42.9	57.1	78.8	99.7	5496.0	11585.0

31013104910000	-79.44870	42.4057	25.5	690.1	24.0	53.7	68.7	94.8	119.6	4872.0	10759.0
31013105280000	-79.45630	42.4075	24.3	684.6	22.4	50.2	64.9	89.6	113.1	5075.0	11035.0
31013105290000	-79.52220	42.2668	35.3	1066.5	24.7	55.3	72.3	99.3	124.8	4382.0	10053.0
31013105300000	-79.44090	42.3617	27.8	883.9	21.3	47.7	63.0	86.7	109.4	5051.0	11003.0
31013105310000	-79.37270	42.3451	28.5	973.8	20.0	44.8	60.2	82.6	104.3	5165.0	11156.0
31013105320000	-79.66420	42.2250	36.4	1108.3	24.7	53.1	71.2	97.4	122.2	4231.0	9823.0
31013105340000	-79.43830	42.3971	24.1	708.4	21.4	47.9	62.5	86.3	109.0	5187.0	11185.0
31013105350000	-79.47350	42.3819	24.8	714.2	22.1	49.5	64.3	88.7	112.0	5084.0	11048.0
31013105500000	-79.65140	42.2286	31.0	1116.5	19.7	44.1	59.9	82.1	103.6	5130.0	11109.0
31013105540000	-79.37300	42.3363	27.2	962.6	18.9	42.4	57.4	78.9	99.7	5340.0	11386.0
31013105640000	-79.47460	42.3895	21.8	697.7	18.3	41.0	55.1	75.9	96.2	5599.0	11714.0
31013105650000	-79.53730	42.2825	34.7	1020.8	25.2	56.4	73.3	100.8	126.7	4355.0	10011.0
31013105660000	-79.53360	42.2876	28.5	1012.6	19.2	43.1	58.4	80.1	101.2	5265.0	11287.0
31013105780000	-79.44420	42.4019	20.5	685.8	16.7	37.5	51.2	70.7	89.7	5807.0	11969.0
31013105800000	-79.36510	42.3324	25.6	968.4	17.2	37.9	52.6	72.2	91.3	5605.0	11721.0
31013105840000	-79.49150	42.3668	21.5	752.6	16.6	37.1	51.1	70.3	89.3	5799.0	11958.0
31013105850000	-79.43200	42.3587	27.8	882.4	21.3	47.6	63.0	86.6	109.3	5047.0	10997.0
31013105960000	-79.37980	42.3379	28.4	964.7	20.1	45.0	60.3	82.9	104.6	5164.0	11154.0
31013105970000	-79.65740	42.2159	37.5	1150.3	24.8	54.6	72.4	99.2	124.5	4261.0	9869.0
31013106010000	-79.43790	42.3876	26.0	799.8	21.3	48.0	62.9	86.7	109.4	5126.0	11103.0
31013106050000	-79.43530	42.3412	29.2	981.8	20.5	45.9	61.5	84.4	106.5	5080.0	11043.0
31013106550000	-79.65720	42.2104	39.8	1203.1	25.6	57.6	75.5	103.6	130.0	4112.0	9640.0
31013106560000	-79.44910	42.3892	23.1	711.4	19.8	44.3	58.7	80.9	102.4	5392.0	11452.0
31013106580000	-79.44420	42.3814	23.9	730.0	20.4	45.7	60.2	83.0	105.0	5292.0	11323.0
31013107000000	-79.49420	42.3553	25.0	768.7	20.9	46.6	61.4	84.6	106.9	5201.0	11204.0
31013107050000	-79.66010	42.1899	36.4	1108.6	24.7	55.4	72.6	99.7	125.3	4330.0	9974.0
31013107060000	-79.65470	42.1933	34.9	1119.2	23.1	51.8	68.6	94.1	118.4	4566.0	10323.0
31013107070000	-79.66090	42.1973	38.1	1113.1	26.2	58.7	76.4	104.8	131.6	4115.0	9644.0
31013107260000	-79.48480	42.3748	25.1	732.7	21.9	49.1	63.9	88.1	111.3	5091.0	11057.0
31013107270000	-79.49190	42.3610	27.1	759.9	23.9	53.4	68.7	94.7	119.5	4806.0	10666.0
31013107560000	-79.44710	42.3645	28.6	860.2	22.8	51.1	66.6	91.7	115.7	4863.0	10746.0
31013107560000	-79.44710	42.3645	25.2	858.0	18.9	42.4	57.1	78.6	99.4	5418.0	11485.0
31013107570000	-79.54780	42.2706	35.4	1028.7	25.6	57.4	74.5	102.4	128.6	4280.0	9899.0
31013107710000	-79.66560	42.1656	37.1	1116.2	25.2	56.3	73.7	101.2	127.1	4259.0	9867.0
31013107720000	-79.68440	42.1657	37.3	1136.9	24.9	55.9	73.3	100.6	126.4	4279.0	9897.0

31013108440000	-79.33720	42.3495	33.5	1016.2	24.1	54.1	70.7	97.1	122.2	4509.0	10241.0
31013108720000	-79.46340	42.0512	42.3	1310.9	25.4	56.9	75.4	103.3	129.5	4044.0	9532.0
31013108730000	-79.07680	42.0555	42.2	1397.5	23.8	53.2	71.5	97.8	122.7	4228.0	9820.0
31013108740000	-79.58910	42.1283	39.5	1215.5	25.1	56.1	74.0	101.4	127.3	4181.0	9746.0
31013108750000	-79.68580	42.1504	38.1	1154.0	25.2	56.5	74.2	101.7	127.7	4212.0	9794.0
31013108760000	-79.67680	42.1470	38.5	1180.5	25.0	55.9	73.6	100.9	126.7	4232.0	9825.0
31013108770000	-79.46640	42.3369	32.8	1004.3	23.7	53.2	69.6	95.6	120.3	4586.0	10353.0
31013108780000	-79.45290	42.3357	34.3	1034.5	24.5	54.9	71.7	98.4	123.8	4439.0	10137.0
31013108790000	-79.46070	42.3399	28.3	997.0	19.3	43.2	58.5	80.3	101.4	5260.0	11281.0
31013108790000	-79.46070	42.3399	28.8	996.7	19.9	44.5	59.9	82.2	103.8	5173.0	11166.0
31013108830000	-79.29730	42.3666	36.5	993.0	27.7	62.3	79.7	109.5	137.5	4034.0	9516.0
31013108840000	-79.44150	42.3698	25.5	801.3	20.6	46.1	61.0	84.0	106.1	5210.0	11216.0
31013108850000	-79.67100	42.2162	35.9	1113.1	24.2	53.9	71.1	97.5	122.5	4401.0	10081.0
31013108860000	-79.66620	42.2110	36.6	1124.4	24.6	53.7	71.4	97.7	122.8	4312.0	9946.0
31013108870000	-79.68640	42.2130	36.4	1108.3	24.7	55.5	72.7	99.8	125.4	4334.0	9980.0
31013108870000	-79.68640	42.2130	35.8	1107.3	24.2	54.4	71.4	98.0	123.2	4408.0	10092.0
31013108940000	-79.38970	42.3366	31.7	963.8	23.6	52.6	68.9	94.7	119.2	4641.0	10433.0
31013108950000	-79.29880	42.3580	29.4	996.4	20.4	45.8	61.4	84.3	106.4	5089.0	11055.0
31013108950000	-79.29880	42.3580	28.8	995.8	19.9	44.6	60.0	82.4	104.0	5175.0	11170.0
31013108960000	-79.69340	42.1531	38.1	1151.8	25.3	56.7	74.3	101.9	127.9	4216.0	9801.0
31013108970000	-79.69380	42.1472	33.4	1136.9	21.5	48.1	64.5	88.4	111.4	4809.0	10670.0
31013108980000	-79.64920	42.1709	39.6	1137.2	26.9	60.3	78.3	107.5	134.9	3995.0	9454.0
31013108990000	-79.68160	42.2178	36.5	1112.8	24.7	55.5	72.7	99.7	125.3	4345.0	9996.0
31013109000000	-79.66810	42.1517	38.3	1166.2	25.1	56.3	73.9	101.3	127.3	4221.0	9809.0
31013109150000	-79.53020	42.1501	41.7	1219.5	26.8	60.1	78.6	107.8	135.2	3913.0	9322.0
31013109190000	-79.33400	42.3662	30.0	961.0	21.8	48.9	64.7	88.9	112.0	4898.0	10795.0
31013109230000	-79.46180	42.3439	38.1	985.1	29.5	66.4	84.2	115.8	145.3	3818.0	9169.0
31013109310000	-79.56620	42.2008	36.3	1143.0	23.9	53.4	70.6	96.8	121.6	4423.0	10113.0
31013109340000	-79.64930	42.1623	32.5	1147.0	20.5	45.9	62.0	85.0	107.0	4976.0	10902.0
31013109370000	-79.40040	42.3447	32.5	980.5	24.0	53.6	70.0	96.2	121.1	4568.0	10327.0
31013109430000	-79.68880	42.2185	37.7	1083.3	26.5	59.5	77.1	105.9	133.0	4093.0	9609.0
31013109440000	-79.39800	42.3346	32.5	979.6	24.0	53.5	69.9	96.1	120.9	4565.0	10322.0
31013109450000	-79.33060	42.3525	29.0	969.3	20.6	46.1	61.6	84.6	106.8	5076.0	11036.0
31013109490000	-79.69520	42.2244	37.7	1083.3	26.5	59.8	77.3	106.1	133.3	4115.0	9644.0
31013109490000	-79.69520	42.2244	34.4	1041.5	24.4	54.5	71.4	98.0	123.2	4439.0	10137.0

31013109550000	-79.68360	42.2232	35.3	1068.3	24.6	55.0	72.1	98.9	124.4	4376.0	10044.0
31013109560000	-79.46320	42.3307	33.1	1025.7	23.5	52.7	69.1	95.0	119.5	4597.0	10368.0
31013109570000	-79.39230	42.3291	38.2	995.2	29.4	65.8	83.7	115.1	144.4	3809.0	9154.0
31013109670000	-79.44440	42.3486	31.7	966.2	23.5	52.7	68.9	94.8	119.3	4646.0	10440.0
31013109680000	-79.29040	42.3678	33.6	984.5	25.0	55.9	72.7	99.9	125.6	4405.0	10086.0
31013109720000	-79.29130	42.3557	35.5	999.4	26.5	59.3	76.5	105.2	132.1	4178.0	9743.0
31013109730000	-79.71010	42.1773	34.3	1119.2	22.6	50.7	67.4	92.4	116.3	4645.0	10439.0
31013109980000	-79.69720	42.1834	36.1	1083.3	25.0	55.6	72.9	100.0	125.7	4304.0	9935.0
31013109990000	-79.69200	42.1881	40.8	1106.7	28.8	64.5	82.9	113.8	142.7	3761.0	9075.0
31013110000000	-79.68600	42.1919	37.9	1135.1	25.4	57.0	74.6	102.4	128.6	4202.0	9779.0
31013110040000	-79.40800	42.3422	31.6	997.9	22.7	50.8	66.9	91.9	115.8	4746.0	10581.0
31013110050000	-79.40490	42.3368	38.7	1030.2	28.8	64.8	82.7	113.7	142.6	3852.0	9224.0
31013110210000	-79.44510	42.3366	30.8	1019.3	21.4	47.9	63.8	87.6	110.4	4924.0	10830.0
31013110220000	-79.38100	42.3176	34.6	1010.4	25.3	56.7	73.6	101.1	127.1	4348.0	10001.0
31013110230000	-79.70990	42.1486	36.2	1136.6	24.0	53.7	70.8	97.1	122.1	4423.0	10113.0
31013110250000	-79.28280	42.3646	31.9	1017.4	22.5	50.4	66.6	91.5	115.2	4759.0	10600.0
31013110290000	-79.47520	42.3347	34.3	988.8	25.6	57.3	74.1	101.9	128.1	4333.0	9979.0
31013110300000	-79.69160	42.1776	37.6	1114.0	25.7	57.5	75.1	103.0	129.4	4185.0	9753.0
31013110310000	-79.49300	42.3735	22.7	725.1	18.9	42.4	56.7	78.1	98.9	5497.0	11585.0
31013110320000	-79.26150	42.4097	32.3	969.9	24.1	53.9	70.3	96.6	121.5	4562.0	10319.0
31013110330000	-79.48300	42.3339	29.7	981.2	21.1	47.3	63.0	86.6	109.2	4997.0	10930.0
31013110360000	-79.27220	42.4129	27.9	892.8	21.2	47.4	62.8	86.3	108.9	5050.0	11002.0
31013110380000	-79.14580	42.1024	41.7	1264.9	25.9	57.9	76.3	104.6	131.2	4008.0	9475.0
31013110400000	-79.66900	42.1922	32.7	1081.4	21.9	49.1	65.4	89.7	113.0	4784.0	10635.0
31013110410000	-79.67950	42.1941	35.4	1073.5	24.6	54.9	72.0	98.8	124.1	4379.0	10048.0
31013110430000	-79.67780	42.1874	35.5	1121.1	23.6	53.0	69.9	95.9	120.6	4495.0	10220.0
31013110510000	-79.41460	42.4016	19.2	711.4	14.3	32.1	45.5	62.8	79.9	6102.0	12318.0
31013110540000	-79.29050	42.3610	31.4	984.5	22.8	50.7	66.9	91.9	115.8	4733.0	10564.0
31013110590000	-79.36790	42.3185	32.2	1004.3	23.2	51.5	67.9	93.3	117.4	4658.0	10457.0
31013110630000	-79.63550	42.2483	35.1	1089.7	23.9	53.6	70.5	96.8	121.7	4474.0	10188.0
31013110640000	-79.64120	42.2391	36.3	1103.4	24.8	55.5	72.8	99.9	125.5	4327.0	9969.0
31013110760000	-79.31420	42.4162	20.5	763.8	15.1	33.7	47.4	65.3	83.0	5991.0	12188.0
31013110780000	-79.70980	42.1583	35.9	1108.3	24.2	54.3	71.4	97.9	123.1	4405.0	10086.0
31013110790000	-79.70240	42.1466	36.2	1138.4	23.9	53.7	70.8	97.2	122.1	4430.0	10123.0
31013110790000	-79.70240	42.1466	33.6	1107.3	22.2	49.4	66.0	90.6	114.0	4710.0	10530.0

31013110940000	-79.39880	42.3223	30.4	993.3	21.6	48.2	64.1	88.0	110.9	4911.0	10812.0
31013110950000	-79.33810	42.3562	30.8	1021.1	21.4	47.9	63.8	87.6	110.5	4930.0	10839.0
31013110960000	-79.70050	42.1909	32.5	1106.7	21.2	47.6	63.8	87.5	110.2	4879.0	10768.0
31013110970000	-79.47960	42.3255	30.5	1000.1	21.5	48.2	64.1	88.0	111.0	4916.0	10819.0
31013110980000	-79.47150	42.3284	28.9	1000.7	19.9	44.4	59.8	82.2	103.7	5174.0	11167.0
31013110980000	-79.47150	42.3284	30.5	1000.1	21.5	48.1	64.0	87.9	110.8	4914.0	10817.0
31013111100000	-79.69780	42.1566	33.6	1107.3	22.2	49.5	66.1	90.7	114.1	4712.0	10533.0
31013111110000	-79.41530	42.3350	31.5	992.4	22.7	50.9	67.0	92.0	115.9	4743.0	10577.0
31013111120000	-79.38560	42.3430	31.6	958.3	23.6	52.8	69.1	94.9	119.5	4640.0	10430.0
31013111170000	-79.66740	42.1858	32.7	1082.0	21.9	48.9	65.3	89.5	112.8	4781.0	10631.0
31013111180000	-79.42160	42.3403	32.0	989.7	23.3	52.2	68.5	94.1	118.4	4658.0	10457.0
31013111190000	-79.39550	42.3401	31.8	969.9	23.5	52.5	68.8	94.5	119.0	4645.0	10438.0
31013111200000	-79.34900	42.3201	33.2	1075.9	22.5	50.5	66.9	91.8	115.6	4704.0	10523.0
31013111210000	-79.29330	42.4033	22.7	853.4	16.1	36.0	50.1	68.9	87.4	5826.0	11992.0
31013111310000	-79.71860	42.1713	33.4	1090.6	22.4	50.1	66.6	91.3	115.0	4708.0	10528.0
31013111320000	-79.72180	42.1647	33.5	1095.8	22.3	50.0	66.5	91.3	114.9	4712.0	10533.0
31013111360000	-79.69720	42.1964	32.7	1077.8	22.0	49.1	65.4	89.8	113.0	4781.0	10631.0
31013111370000	-79.70880	42.1971	28.8	1077.8	18.4	41.1	56.4	77.3	97.7	5366.0	11418.0
31013111380000	-79.34200	42.3259	33.1	1150.0	20.9	47.1	63.3	86.8	109.4	4912.0	10814.0
31013111460000	-79.37540	42.3226	32.0	1029.3	22.4	49.9	66.1	90.8	114.3	4755.0	10595.0
31013111520000	-79.49720	42.3395	28.1	866.2	22.1	49.4	64.8	89.2	112.5	4949.0	10864.0
31013111530000	-79.31100	42.3639	28.3	962.0	20.1	45.1	60.4	83.0	104.8	5165.0	11156.0
31013111540000	-79.36670	42.3250	33.8	1209.8	20.5	46.4	62.6	85.8	108.1	4952.0	10868.0
31013111620000	-79.63860	42.2176	37.3	1134.2	25.0	55.9	73.4	100.7	126.5	4274.0	9889.0
31013111630000	-79.63360	42.2229	34.5	1132.9	22.5	50.5	67.2	92.1	115.9	4654.0	10450.0
31013111650000	-79.62850	42.2532	32.7	1083.0	21.9	49.1	65.4	89.8	113.1	4787.0	10639.0
31013111670000	-79.62060	42.2512	35.6	1089.7	24.4	54.7	71.8	98.5	123.9	4396.0	10073.0
31013111690000	-79.35720	42.3283	36.4	1026.3	26.7	59.7	77.1	105.9	133.0	4119.0	9650.0
31013111700000	-79.49870	42.3626	24.9	756.2	21.0	47.0	61.7	85.1	107.5	5201.0	11203.0
31013111780000	-79.29330	42.4374	19.8	731.5	14.7	32.9	46.5	64.1	81.5	6047.0	12254.0
31013111790000	-79.63860	42.2557	33.4	1051.0	23.3	52.0	68.6	94.1	118.5	4607.0	10382.0
31013111800000	-79.63580	42.2295	36.4	1105.2	24.8	55.3	72.6	99.6	125.2	4324.0	9965.0
31013111810000	-79.37770	42.3284	33.3	997.6	24.3	54.5	71.1	97.7	122.9	4498.0	10224.0
31013111820000	-79.61510	42.2561	35.5	1079.6	24.5	55.0	72.0	98.9	124.3	4393.0	10068.0
31013111900000	-79.63050	42.2340	36.6	1119.5	24.6	55.2	72.5	99.4	125.0	4343.0	9993.0

31013111920000	-79.65340	42.2037	37.1	1122.0	25.1	56.0	73.5	100.8	126.7	4260.0	9868.0
31013111930000	-79.50330	42.3585	22.6	753.5	18.0	40.4	54.6	75.2	95.3	5599.0	11714.0
31013111970000	-79.66940	42.2023	33.5	1097.0	22.3	50.0	66.5	91.3	114.9	4714.0	10537.0
31013111980000	-79.49980	42.3527	25.6	772.4	21.6	48.2	63.2	87.0	109.9	5104.0	11074.0
31013111990000	-79.62710	42.2469	36.2	1091.8	24.9	55.8	73.0	100.2	126.0	4320.0	9959.0
31013112000000	-79.61640	42.2468	36.2	1092.1	24.9	55.8	73.0	100.2	126.0	4320.0	9959.0
31013112050000	-79.34460	42.3325	34.0	1090.6	22.9	51.3	67.9	93.2	117.3	4632.0	10419.0
31013112060000	-79.50030	42.3684	24.0	735.2	20.4	45.7	60.2	83.0	105.0	5295.0	11326.0
31013112070000	-79.50790	42.3533	24.5	772.7	20.1	45.1	59.8	82.4	104.1	5306.0	11341.0
31013112080000	-79.51600	42.3500	25.4	792.8	20.7	45.4	60.4	83.2	105.0	5198.0	11199.0
31013112100000	-79.46370	42.1004	38.7	1244.2	23.9	53.5	71.1	97.4	122.4	4341.0	9991.0
31013112110000	-79.45480	42.1009	35.9	1243.0	21.7	48.5	65.4	89.5	112.6	4707.0	10526.0
31013112120000	-79.46380	42.0946	35.9	1240.5	21.7	48.5	65.4	89.6	112.7	4705.0	10524.0
31013112540000	-79.62700	42.2278	36.3	1103.7	24.8	55.5	72.8	99.9	125.5	4327.0	9970.0
31013112550000	-79.63200	42.2598	35.3	1067.7	24.7	55.3	72.3	99.3	124.8	4385.0	10057.0
31013112560000	-79.62380	42.2337	35.8	1100.9	24.3	54.4	71.5	98.1	123.4	4400.0	10080.0
31013112570000	-79.65650	42.2643	30.9	984.5	22.2	49.8	65.8	90.3	113.8	4825.0	10692.0
31013112580000	-79.64880	42.2689	32.6	992.7	23.8	53.4	69.8	95.9	120.7	4578.0	10341.0
31013112630000	-79.51310	42.3589	25.3	750.1	21.8	48.8	63.6	87.7	110.8	5099.0	11068.0
31013112670000	-79.45040	42.3248	32.3	1051.6	22.2	49.7	66.0	90.6	114.1	4773.0	10620.0
31013112680000	-79.40700	42.3195	30.9	1028.4	21.3	47.7	63.6	87.4	110.1	4928.0	10835.0
31013112690000	-79.69010	42.2604	32.8	1174.4	20.3	46.5	62.2	85.4	107.7	5056.0	11009.0
31013112720000	-79.63340	42.2729	28.9	1004.3	19.8	44.5	59.9	82.3	103.9	5181.0	11177.0
31013112730000	-79.50310	42.3351	28.5	895.8	21.8	48.9	64.4	88.6	111.7	4967.0	10889.0
31013112740000	-79.51160	42.3371	26.5	834.9	21.0	46.9	62.0	85.3	107.7	5121.0	11098.0
31013112750000	-79.50350	42.3451	27.3	808.6	22.6	50.6	65.9	90.8	114.5	4925.0	10831.0
31013112840000	-79.46720	42.1075	36.1	1262.2	21.5	48.3	65.1	89.2	112.2	4721.0	10547.0
31013112850000	-79.45810	42.1070	40.6	1259.1	25.1	56.1	74.2	101.7	127.6	4140.0	9683.0
31013112940000	-79.37380	42.3207	31.4	1020.2	21.9	48.7	64.8	89.0	112.0	4832.0	10702.0
31013112950000	-79.68250	42.2628	27.2	878.7	20.7	45.5	60.9	83.6	105.5	5127.0	11105.0
31013112960000	-79.39820	42.3146	31.0	1034.5	21.3	47.7	63.6	87.3	110.0	4933.0	10842.0
31013112970000	-79.38890	42.3199	29.3	989.1	20.5	45.8	61.3	84.2	106.3	5082.0	11045.0
31013112980000	-79.68740	42.2668	26.4	824.2	21.1	46.4	61.7	84.8	107.1	5110.0	11082.0
31013112980000	-79.68740	42.2668	28.1	823.6	23.1	50.9	66.6	91.6	115.4	4822.0	10688.0
31013113040000	-79.44400	42.3286	31.0	1033.9	21.3	47.6	63.6	87.3	110.0	4930.0	10838.0

31013113050000	-79.43610	42.3240	29.6	1015.9	20.3	45.4	61.0	83.8	105.6	5092.0	11058.0
31013113140000	-79.62380	42.2740	29.0	1011.6	19.8	44.4	59.8	82.1	103.6	5181.0	11177.0
31013113150000	-79.49210	42.3343	26.8	930.9	19.1	42.8	57.8	79.4	100.4	5334.0	11377.0
31013113160000	-79.42110	42.3249	34.8	1026.3	25.1	56.3	73.2	100.6	126.4	4356.0	10014.0
31013113230000	-79.38320	42.3330	32.7	999.7	23.8	53.3	69.7	95.8	120.6	4589.0	10358.0
31013113290000	-79.38000	42.4052	20.3	747.7	15.1	33.7	47.4	65.2	82.9	5995.0	12193.0
31013113360000	-79.42980	42.3287	32.0	1025.4	22.4	50.3	66.4	91.2	114.9	4761.0	10604.0
31013113370000	-79.48900	42.3264	39.4	1000.4	30.4	68.2	86.4	118.8	149.0	3681.0	8941.0
31013113390000	-79.42930	42.3357	30.8	982.7	22.2	49.8	65.7	90.3	113.8	4822.0	10689.0
31013113400000	-79.35590	42.3062	30.6	1003.4	21.5	48.2	64.0	87.9	110.9	4917.0	10821.0
31013113410000	-79.35390	42.2991	35.6	1006.5	26.4	59.2	76.4	105.0	131.9	4186.0	9754.0
31013113420000	-79.35410	42.3150	32.8	1002.2	23.7	52.9	69.4	95.4	120.0	4577.0	10339.0
31013113500000	-79.51010	42.3242	31.3	938.2	23.8	53.4	69.6	95.7	120.4	4634.0	10423.0
31013113510000	-79.50440	42.3191	30.8	940.3	23.2	51.9	67.9	93.4	117.6	4715.0	10537.0
31013113520000	-79.33250	42.3291	31.1	1083.6	20.4	45.7	61.5	84.4	106.4	5032.0	10978.0
31013113540000	-79.49500	42.3133	31.9	982.4	23.4	52.3	68.6	94.3	118.7	4653.0	10450.0
31013113550000	-79.43800	42.3328	32.9	1013.2	23.6	52.9	69.4	95.3	120.0	4590.0	10358.0
31013113580000	-79.34710	42.4251	24.9	723.9	22.0	49.3	64.1	88.4	111.6	5088.0	11053.0
31013113620000	-79.70110	42.2132	34.0	1051.3	23.8	53.3	70.0	96.1	120.9	4530.0	10272.0
31013113630000	-79.69790	42.2181	34.8	1031.8	25.0	55.8	72.9	100.1	125.8	4352.0	10007.0
31013113640000	-79.69010	42.2733	25.4	794.3	20.7	46.3	61.1	84.2	106.4	5210.0	11216.0
31013113700000	-79.29200	42.4156	25.8	780.0	21.5	47.7	62.7	86.4	109.1	5101.0	11070.0
31013113720000	-79.35070	42.3092	31.3	1014.4	22.0	49.0	65.1	89.4	112.6	4834.0	10706.0
31013113730000	-79.32270	42.3276	34.0	1051.0	23.8	53.3	70.0	96.1	120.9	4529.0	10270.0
31013113870000	-79.66331	42.2191	56.8	1884.3	25.4	55.8	77.6	105.4	131.6	3568.0	8750.0
31013113870000	-79.66330	42.2191	56.8	1886.1	25.4	58.5	78.6	107.3	134.4	3771.0	9090.0
31013114050000	-79.31540	42.3240	32.9	1008.0	23.7	52.9	69.4	95.3	119.9	4582.0	10347.0
31013114060000	-79.31010	42.3195	33.3	998.2	24.3	54.4	71.0	97.6	122.8	4497.0	10222.0
31013114070000	-79.69410	42.2083	33.7	1073.2	23.0	51.6	68.2	93.6	117.8	4620.0	10402.0
31013114140000	-79.64950	42.1971	29.8	1116.2	18.7	41.8	57.3	78.6	99.2	5291.0	11322.0
31013114150000	-79.34360	42.3154	33.9	1086.0	22.9	51.4	68.0	93.3	117.5	4631.0	10417.0
31013114220000	-79.40930	42.3951	28.0	746.8	25.5	57.2	72.7	100.2	126.3	4607.0	10383.0
31013114230000	-79.35260	42.3920	23.6	864.4	16.9	37.9	52.2	71.8	90.9	5695.0	11832.0
31013114240000	-79.40720	42.3125	34.6	1051.9	24.3	54.4	71.3	97.8	123.1	4449.0	10152.0
31013114270000	-79.38320	42.3070	32.2	1043.9	22.3	49.9	66.1	90.8	114.3	4770.0	10616.0

31013114290000	-79.64210	42.2691	31.3	978.4	22.8	51.1	67.2	92.4	116.3	4735.0	10566.0
31013114310000	-79.39300	42.3094	33.9	1042.7	23.9	53.5	70.1	96.3	121.2	4524.0	10262.0
31013114480000	-79.34330	42.3923	29.5	885.4	23.1	51.9	67.6	93.0	117.2	4777.0	10626.0
31013114530000	-79.40190	42.3925	19.9	756.8	14.4	32.0	45.6	62.7	79.8	6088.0	12302.0
31013114540000	-79.35480	42.4115	25.5	761.4	21.7	48.5	63.4	87.4	110.3	5101.0	11071.0
31013114550000	-79.48400	42.3216	31.5	988.2	22.7	50.8	67.0	92.0	115.9	4738.0	10570.0
31013114560000	-79.52010	42.3251	28.3	876.9	22.0	49.2	64.7	89.0	112.3	4955.0	10873.0
31013114570000	-79.50610	42.3096	27.8	962.3	19.5	43.7	58.9	81.0	102.2	5252.0	11270.0
31013114590000	-79.64160	42.2235	36.8	1135.4	24.5	54.8	72.1	98.9	124.3	4348.0	10001.0
31013114700000	-79.30180	42.4541	18.3	690.4	13.5	30.2	43.5	60.0	76.5	6207.0	12439.0
31013114710000	-79.28190	42.4526	20.6	691.9	16.7	37.3	51.1	70.5	89.5	5806.0	11968.0
31013114720000	-79.28850	42.4463	23.6	710.5	20.6	46.1	60.6	83.5	105.6	5289.0	11318.0
31013114740000	-79.25140	42.4416	21.2	813.5	15.1	33.6	47.4	65.2	82.9	5980.0	12175.0
31013114770000	-79.62740	42.2382	35.1	1096.4	23.8	53.4	70.3	96.5	121.4	4475.0	10190.0
31013114820000	-79.37010	42.3129	33.4	1007.7	24.2	54.3	70.9	97.4	122.5	4504.0	10233.0
31013114860000	-79.47480	42.3191	34.7	1021.4	25.2	56.4	73.3	100.7	126.6	4354.0	10010.0
31013114870000	-79.36630	42.3062	32.8	1004.3	23.7	53.1	69.5	95.5	120.2	4582.0	10347.0
31013114880000	-79.46690	42.3239	33.4	1008.6	24.2	54.2	70.8	97.3	122.4	4503.0	10231.0
31013114890000	-79.36710	42.2988	32.8	1004.3	23.7	53.0	69.5	95.5	120.2	4581.0	10346.0
31013114990000	-79.27420	42.3677	31.1	1001.6	22.1	49.4	65.4	89.9	113.2	4831.0	10701.0
31013115000000	-79.69830	42.2596	28.4	850.4	22.9	49.8	65.6	90.2	113.7	4828.0	10697.0
31013115010000	-79.30350	42.3124	31.8	1012.6	22.5	50.5	66.6	91.5	115.3	4753.0	10592.0
31013115020000	-79.26630	42.3654	34.0	1013.5	24.7	55.3	72.1	99.0	124.5	4424.0	10115.0
31013115030000	-79.25930	42.3605	31.5	1030.5	21.8	48.7	64.8	89.0	112.1	4841.0	10716.0
31013115040000	-79.25270	42.3649	32.5	1064.1	22.1	49.6	65.8	90.3	113.8	4783.0	10634.0
31013115110000	-79.37860	42.3986	31.8	774.2	29.4	66.0	82.4	113.6	142.8	4088.0	9601.0
31013115120000	-79.26960	42.4360	25.2	815.0	19.8	44.3	59.1	81.3	102.8	5310.0	11346.0
31013115130000	-79.51380	42.3115	30.7	933.0	23.3	52.1	68.1	93.7	118.0	4713.0	10535.0
31013115240000	-79.51900	42.3185	30.2	899.5	23.6	52.9	68.8	94.7	119.2	4695.0	10509.0
31013115250000	-79.49620	42.3282	30.8	979.0	22.3	50.0	65.9	90.5	114.1	4826.0	10695.0
31013115260000	-79.36420	42.3949	23.6	823.3	17.7	39.7	54.1	74.4	94.2	5600.0	11715.0
31013115300000	-79.46930	42.1143	39.6	1271.0	24.1	54.0	71.8	98.4	123.5	4297.0	9924.0
31013115320000	-79.43390	42.3742	25.2	778.8	20.8	46.5	61.3	84.4	106.7	5204.0	11207.0
31013115360000	-79.35720	42.3854	28.3	920.5	21.0	46.9	62.4	85.7	108.2	5060.0	11015.0
31013115370000	-79.34920	42.3873	29.3	911.1	22.3	50.0	65.6	90.2	113.8	4880.0	10770.0

31013115380000	-79.35760	42.3770	28.4	994.0	19.5	43.7	59.0	81.0	102.3	5234.0	11248.0
31013115400000	-79.39420	42.3760	30.4	911.1	23.5	52.6	68.6	94.4	118.9	4702.0	10519.0
31013115530000	-79.29510	42.4203	22.9	796.1	17.5	39.2	53.5	73.6	93.3	5649.0	11776.0
31013115550000	-79.34290	42.4429	18.0	670.0	13.5	30.1	43.3	59.7	76.2	6217.0	12450.0
31013115570000	-79.48630	42.3117	32.9	1010.1	23.6	53.0	69.5	95.4	120.1	4588.0	10356.0
31013115580000	-79.46210	42.3159	32.2	1041.8	22.3	49.9	66.1	90.7	114.3	4766.0	10610.0
31013115620000	-79.32490	42.3683	31.0	951.9	23.1	51.8	67.8	93.2	117.4	4725.0	10552.0
31013115630000	-79.34840	42.3041	31.9	1020.2	22.5	50.3	66.5	91.3	114.9	4755.0	10595.0
31013115640000	-79.32150	42.3097	33.1	1110.1	21.7	48.8	65.1	89.3	112.4	4807.0	10668.0
31013115680000	-79.32270	42.3170	35.4	1115.0	23.7	53.1	70.0	96.1	120.9	4493.0	10217.0
31013115830000	-79.31390	42.4462	20.8	706.8	16.7	37.4	51.2	70.6	89.6	5805.0	11966.0
31013115840000	-79.42270	42.3328	29.3	991.8	20.5	45.8	61.4	84.3	106.3	5084.0	11048.0
31013115850000	-79.41630	42.3144	32.5	1064.4	22.1	49.5	65.7	90.2	113.6	4777.0	10626.0
31013115860000	-79.25210	42.3572	32.8	1084.8	21.9	49.1	65.4	89.8	113.1	4790.0	10644.0
31013115940000	-79.26770	42.3586	33.2	1036.6	23.4	52.4	68.9	94.6	119.1	4602.0	10375.0
31013115950000	-79.26760	42.3741	30.9	983.6	22.2	49.7	65.7	90.3	113.7	4822.0	10689.0
31013115960000	-79.30480	42.3538	32.0	984.2	23.3	52.3	68.5	94.2	118.6	4654.0	10450.0
31013115970000	-79.24440	42.3586	31.7	1085.7	20.9	46.7	62.8	86.1	108.5	4950.0	10866.0
31013115980000	-79.29290	42.3758	29.4	955.2	21.3	47.7	63.3	87.1	109.8	4984.0	10913.0
31013115990000	-79.49280	42.1423	38.9	1215.5	24.6	55.2	72.9	99.9	125.4	4255.0	9860.0
31013116030000	-79.30000	42.3456	31.5	1033.9	21.8	48.9	65.0	89.2	112.4	4852.0	10730.0
31013116040000	-79.35660	42.2934	30.6	1006.8	21.5	48.1	64.0	87.9	110.7	4919.0	10823.0
31013116050000	-79.30110	42.3188	31.6	999.7	22.6	50.7	66.9	91.8	115.7	4746.0	10582.0
31013116060000	-79.30140	42.3271	30.5	995.8	21.6	48.3	64.2	88.1	111.1	4914.0	10817.0
31013116120000	-79.32910	42.4429	20.9	680.6	17.6	39.2	53.2	73.3	93.0	5704.0	11843.0
31013116130000	-79.26500	42.4404	22.4	816.9	16.4	36.8	50.8	70.0	88.8	5792.0	11950.0
31013116140000	-79.42320	42.3632	28.0	860.2	22.1	49.5	64.9	89.3	112.7	4946.0	10861.0
31013116150000	-79.41570	42.3701	26.4	864.1	20.2	45.2	60.2	82.8	104.6	5228.0	11239.0
31013116160000	-79.27960	42.3785	30.9	985.1	22.2	49.8	65.7	90.3	113.8	4825.0	10693.0
31013116170000	-79.27200	42.3788	30.7	973.8	22.3	50.0	65.9	90.6	114.1	4819.0	10684.0
31013116260000	-79.28610	42.3969	33.5	856.2	28.6	63.8	80.7	111.1	139.6	4063.0	9563.0
31013116270000	-79.29460	42.4259	20.6	771.5	15.1	33.8	47.5	65.4	83.1	5989.0	12186.0
31013116340000	-79.45680	42.3124	29.4	1082.7	18.9	42.3	57.7	79.1	99.9	5285.0	11314.0
31013116350000	-79.42830	42.3216	30.4	1032.1	20.7	46.4	62.2	85.4	107.6	5012.0	10951.0
31013116360000	-79.43720	42.3159	34.6	1058.6	24.2	54.3	71.1	97.7	122.9	4455.0	10161.0

31013116370000	-79.44870	42.3095	34.1	1098.8	22.8	51.2	67.8	93.0	117.0	4637.0	10427.0
31013116380000	-79.42750	42.3151	33.6	1064.7	23.1	51.8	68.4	93.9	118.2	4618.0	10399.0
31013116430000	-79.28660	42.3807	30.5	954.9	22.5	50.4	66.3	91.1	114.8	4811.0	10673.0
31013116440000	-79.28820	42.3852	29.5	925.7	22.2	49.7	65.4	89.9	113.3	4887.0	10779.0
31013116480000	-79.44010	42.3100	32.6	1068.9	22.0	49.3	65.6	90.0	113.4	4778.0	10627.0
31013116490000	-79.44210	42.3040	34.5	1089.1	23.4	52.5	69.2	95.0	119.5	4551.0	10302.0
31013116500000	-79.43500	42.3055	33.0	1064.1	22.6	50.5	67.0	91.9	115.7	4693.0	10507.0
31013116570000	-79.49230	42.3060	30.4	992.4	21.6	48.3	64.2	88.2	111.1	4912.0	10814.0
31013116590000	-79.49450	42.1158	36.5	1243.3	22.1	49.5	66.5	91.1	114.6	4633.0	10420.0
31013116610000	-79.47290	42.0907	36.9	1236.0	22.6	50.7	67.8	92.9	116.8	4558.0	10311.0
31013116640000	-79.50880	42.1696	37.3	1179.6	24.0	53.8	71.2	97.6	122.6	4374.0	10041.0
31013116670000	-79.73610	42.0663	40.6	1176.8	26.9	60.0	78.4	107.4	134.8	3943.0	9372.0
31013116710000	-79.42340	42.3103	31.6	1080.5	20.9	46.9	62.9	86.3	108.7	4949.0	10865.0
31013116720000	-79.47020	42.1615	30.9	1196.3	18.3	41.0	56.6	77.5	97.8	5314.0	11351.0
31013116780000	-79.36150	42.4356	21.4	672.7	18.4	41.1	55.2	76.1	96.5	5598.0	11713.0
31013116790000	-79.36480	42.4540	23.3	652.0	21.9	49.2	63.6	87.9	111.0	5170.0	11163.0
31013116800000	-79.37090	42.4273	23.6	706.5	20.6	46.2	60.7	83.8	105.9	5292.0	11322.0
31013116810000	-79.37260	42.4342	23.1	673.0	20.9	46.8	61.2	84.5	106.8	5281.0	11308.0
31013116820000	-79.35350	42.4321	27.4	700.1	26.2	58.7	74.1	102.3	128.8	4575.0	10336.0
31013116830000	-79.23240	42.4459	25.8	857.4	19.6	43.8	58.6	80.7	102.0	5319.0	11358.0
31013116840000	-79.23280	42.4402	28.9	884.8	22.5	50.3	65.9	90.7	114.3	4863.0	10746.0
31013116850000	-79.22750	42.4358	27.8	919.9	20.4	45.7	61.0	83.8	105.8	5152.0	11139.0
31013116860000	-79.19830	42.4418	26.0	834.2	20.4	45.5	60.4	83.2	105.1	5218.0	11226.0
31013116870000	-79.19330	42.4462	25.1	848.9	19.0	42.6	57.2	78.7	99.6	5417.0	11484.0
31013116880000	-79.19980	42.4522	28.8	837.0	23.7	53.0	68.6	94.5	119.1	4752.0	10590.0
31013116910000	-79.25930	42.4562	24.5	730.6	21.2	47.4	62.1	85.7	108.3	5192.0	11191.0
31013116960000	-79.46130	42.3041	32.0	1066.5	21.5	48.3	64.4	88.4	111.4	4862.0	10744.0
31013116970000	-79.44220	42.3208	31.3	1054.9	21.1	47.3	63.3	86.8	109.4	4940.0	10852.0
31013116980000	-79.44720	42.3165	32.2	1082.3	21.4	48.0	64.2	88.1	110.9	4869.0	10755.0
31013117010000	-79.28540	42.3722	29.3	990.0	20.5	45.9	61.4	84.4	106.5	5086.0	11050.0
31013117020000	-79.29460	42.3884	24.6	851.0	18.3	40.9	55.4	76.3	96.5	5507.0	11598.0
31013117050000	-79.68120	42.0317	40.4	1249.4	25.2	56.3	74.4	101.9	127.9	4133.0	9672.0
31013117100000	-79.32510	42.4860	19.8	605.9	17.8	39.9	53.7	74.1	94.1	5711.0	11852.0
31013117110000	-79.41610	42.3593	27.5	905.3	20.5	45.9	61.1	84.1	106.1	5147.0	11131.0
31013117120000	-79.42350	42.3459	30.2	975.4	21.7	48.7	64.5	88.6	111.7	4908.0	10808.0

31013117130000	-79.31360	42.3341	29.2	986.0	20.5	45.9	61.4	84.4	106.4	5082.0	11045.0
31013117140000	-79.30550	42.3680	29.8	947.0	22.0	49.1	64.8	89.1	112.4	4891.0	10785.0
31013117150000	-79.40360	42.2971	35.4	1112.8	23.7	53.1	70.1	96.1	120.9	4487.0	10208.0
31013117160000	-79.38930	42.3033	32.4	1056.4	22.1	49.5	65.8	90.3	113.8	4772.0	10619.0
31013117170000	-79.33250	42.3053	32.2	1081.7	21.4	48.0	64.1	88.0	110.9	4867.0	10751.0
31013117180000	-79.34720	42.2901	29.6	1016.2	20.3	45.5	61.1	83.9	105.8	5093.0	11060.0
31013117200000	-79.25900	42.3514	33.2	1075.9	22.5	50.4	66.9	91.8	115.5	4702.0	10520.0
31013117240000	-79.36780	42.3884	28.5	893.4	21.8	48.9	64.4	88.6	111.8	4963.0	10884.0
31013117250000	-79.52680	42.3273	25.9	831.5	20.4	45.8	60.7	83.6	105.6	5225.0	11236.0
31013117340000	-79.51820	42.1162	41.0	1293.6	24.7	55.4	73.6	100.7	126.5	4168.0	9727.0
31013117510000	-79.30680	42.3384	28.7	987.9	19.9	44.6	60.0	82.4	104.0	5170.0	11162.0
31013117520000	-79.41580	42.2944	34.7	1106.4	23.2	52.1	68.9	94.5	118.9	4560.0	10316.0
31013117530000	-79.37430	42.3847	28.2	911.4	21.1	47.2	62.6	86.0	108.6	5058.0	11012.0
31013117640000	-79.38760	42.3807	28.3	918.7	21.0	47.2	62.5	86.0	108.5	5066.0	11024.0
31013117640000	-79.38760	42.3807	27.7	918.4	20.4	45.8	61.0	83.9	106.0	5156.0	11144.0
31013117650000	-79.44210	42.2985	30.7	1094.5	19.8	44.4	60.1	82.5	104.0	5120.0	11096.0
31013117660000	-79.45160	42.3036	31.3	1097.9	20.3	45.5	61.4	84.2	106.1	5039.0	10988.0
31013117740000	-79.35730	42.4415	21.4	671.2	18.4	41.2	55.2	76.2	96.6	5599.0	11713.0
31013117840000	-79.34870	42.4499	23.5	668.7	21.8	48.8	63.3	87.3	110.3	5174.0	11167.0
31013117860000	-79.24210	42.5179	17.5	603.5	14.2	31.0	44.4	61.2	78.0	6150.0	12373.0
31013117870000	-79.32700	42.4279	18.9	728.8	13.6	30.4	43.8	60.3	76.9	6191.0	12421.0
31013117880000	-79.33760	42.4246	19.6	719.3	14.7	32.9	46.4	64.0	81.4	6051.0	12259.0
31013117930000	-79.46940	42.3062	30.1	1008.0	20.9	46.8	62.5	85.9	108.3	5004.0	10939.0
31013117950000	-79.49290	42.2984	29.4	1002.5	20.4	45.7	61.3	84.2	106.2	5091.0	11058.0
31013118000000	-79.31670	42.4636	18.4	662.3	14.3	32.0	45.3	62.5	79.6	6121.0	12339.0
31013118030000	-79.27790	42.3828	33.4	964.1	25.3	56.6	73.3	100.8	126.7	4395.0	10072.0
31013118040000	-79.27790	42.3896	32.5	938.2	25.0	56.0	72.5	99.7	125.4	4461.0	10170.0
31013118050000	-79.30830	42.4878	19.4	615.7	16.9	37.9	51.6	71.2	90.4	5821.0	11986.0
31013118060000	-79.29630	42.4873	24.5	625.1	24.9	55.8	70.5	97.4	122.9	4834.0	10706.0
31013118070000	-79.29510	42.4811	19.6	630.6	16.9	37.8	51.5	71.1	90.2	5817.0	11981.0
31013118080000	-79.35300	42.4543	22.2	654.1	20.2	45.3	59.5	82.1	103.9	5384.0	11442.0
31013118090000	-79.35330	42.4462	24.2	673.6	22.5	50.5	65.2	90.0	113.6	5072.0	11032.0
31013118100000	-79.34360	42.4331	24.2	713.2	21.3	47.9	62.5	86.2	108.9	5190.0	11188.0
31013118110000	-79.41350	42.4426	22.6	640.1	21.2	45.8	60.4	83.3	105.3	5253.0	11272.0
31013118120000	-79.40520	42.4457	19.1	634.0	16.0	34.8	48.5	66.9	85.0	5924.0	12109.0

31013118660000	-79.44680	42.2913	34.5	1092.7	23.4	52.2	69.1	94.7	119.2	4549.0	10299.0
31013118670000	-79.44090	42.2879	32.3	1094.2	21.3	47.6	63.9	87.6	110.3	4869.0	10755.0
31013118680000	-79.43050	42.2872	30.8	1102.5	19.8	44.3	60.0	82.3	103.8	5123.0	11100.0
31013118690000	-79.42980	42.2818	36.2	1089.4	24.9	55.9	73.1	100.3	126.0	4318.0	9956.0
31013118700000	-79.42820	42.2751	35.3	1067.7	24.7	55.2	72.2	99.2	124.7	4380.0	10050.0
31013118710000	-79.44750	42.2807	37.0	1201.2	23.4	52.6	69.7	95.6	120.2	4481.0	10199.0
31013118720000	-79.46350	42.2813	32.3	1046.4	22.2	49.7	66.0	90.6	114.1	4768.0	10612.0
31013118730000	-79.47010	42.2780	34.1	1017.7	24.7	55.2	72.0	98.8	124.3	4427.0	10119.0
31013118740000	-79.47250	42.2728	32.5	1019.9	23.0	51.5	67.9	93.2	117.4	4674.0	10479.0
31013118750000	-79.46380	42.2725	33.5	1054.9	23.2	52.1	68.6	94.2	118.5	4614.0	10394.0
31013118760000	-79.46950	42.2681	33.0	1016.5	23.6	52.6	69.2	95.0	119.5	4585.0	10352.0
31013118770000	-79.46000	42.2656	34.2	1069.5	23.6	52.9	69.6	95.5	120.2	4540.0	10285.0
31013118780000	-79.45250	42.2670	34.1	1097.9	22.8	51.2	67.8	93.0	117.0	4636.0	10424.0
31013118790000	-79.45210	42.2753	34.4	1085.7	23.4	52.5	69.3	95.0	119.5	4547.0	10296.0
31013118800000	-79.45040	42.2587	36.3	1097.0	24.9	55.8	73.0	100.1	125.9	4329.0	9972.0
31013118820000	-79.42870	42.2690	32.3	1050.7	22.2	49.6	65.9	90.5	113.9	4769.0	10615.0
31013118830000	-79.43460	42.2582	31.9	1064.4	21.6	48.2	64.4	88.4	111.3	4858.0	10739.0
31013118840000	-79.43100	42.2640	33.5	1054.6	23.2	52.0	68.6	94.1	118.4	4610.0	10387.0
31013118850000	-79.42070	42.2757	34.1	1058.9	23.7	53.0	69.8	95.8	120.5	4531.0	10272.0
31013118860000	-79.42260	42.2879	33.2	1077.5	22.5	50.4	66.8	91.7	115.5	4702.0	10520.0
31013118870000	-79.39660	42.2886	38.1	1153.7	25.2	56.7	74.3	101.9	127.9	4223.0	9812.0
31013118880000	-79.39340	42.2831	35.1	1137.8	23.0	51.5	68.3	93.7	117.8	4576.0	10339.0
31013118890000	-79.38440	42.2878	34.5	1092.4	23.4	52.4	69.1	94.9	119.3	4551.0	10302.0
31013118900000	-79.37740	42.2904	33.6	1060.4	23.2	51.8	68.4	93.9	118.2	4612.0	10390.0
31013118910000	-79.38120	42.2818	35.4	1116.5	23.7	53.0	70.0	96.0	120.7	4488.0	10209.0
31013118920000	-79.37030	42.2900	32.7	1038.2	22.8	51.1	67.5	92.7	116.7	4682.0	10491.0
31013118930000	-79.36160	42.2891	33.0	1015.6	23.6	52.8	69.3	95.2	119.8	4588.0	10356.0
31013118940000	-79.35680	42.2808	33.7	1029.9	24.0	53.8	70.4	96.7	121.6	4516.0	10251.0
31013118950000	-79.35240	42.2869	34.6	1011.0	25.3	56.6	73.5	101.0	127.0	4344.0	9995.0
31013118960000	-79.34180	42.2844	34.1	1021.4	24.6	55.1	71.9	98.8	124.2	4430.0	10124.0
31013118970000	-79.32880	42.2935	29.6	1051.9	19.5	43.6	59.2	81.2	102.4	5187.0	11185.0
31013118990000	-79.31690	42.2864	32.6	1027.8	22.9	51.4	67.7	93.0	117.1	4677.0	10484.0
31013119000000	-79.31540	42.2916	29.7	1023.5	20.3	45.3	60.9	83.7	105.5	5095.0	11062.0
31013119010000	-79.32230	42.2957	32.8	1048.5	22.7	51.0	67.4	92.5	116.5	4691.0	10504.0
31013119020000	-79.32490	42.3009	34.1	1057.4	23.7	53.1	69.8	95.8	120.5	4530.0	10271.0

31013119030000	-79.31010	42.3099	31.8	1012.9	22.5	50.4	66.6	91.5	115.2	4752.0	10591.0
31013119040000	-79.31240	42.2968	32.4	1018.0	23.0	51.5	67.9	93.2	117.3	4671.0	10475.0
31013119050000	-79.30990	42.3038	28.0	1019.0	18.7	41.8	57.0	78.2	98.8	5353.0	11402.0
31013119070000	-79.29830	42.2872	33.1	1026.6	23.5	52.5	69.1	94.8	119.3	4593.0	10364.0
31013119090000	-79.28920	42.3294	31.6	999.7	22.6	50.6	66.8	91.7	115.5	4744.0	10579.0
31013119100000	-79.28030	42.3269	32.7	1040.0	22.8	51.1	67.5	92.7	116.7	4684.0	10493.0
31013119110000	-79.28950	42.3225	33.3	998.5	24.3	54.4	71.0	97.5	122.7	4495.0	10220.0
31013119120000	-79.28710	42.3166	31.9	1020.5	22.5	50.3	66.5	91.3	115.0	4756.0	10596.0
31013119130000	-79.28460	42.3089	33.4	1048.8	23.3	52.1	68.7	94.3	118.7	4607.0	10383.0
31013119140000	-79.29070	42.3115	31.5	1033.9	21.8	48.9	64.9	89.1	112.3	4847.0	10724.0
31013119160000	-79.27520	42.3063	34.4	1079.9	23.5	52.6	69.4	95.2	119.8	4544.0	10291.0
31013119180000	-79.31900	42.4424	18.6	710.5	13.5	30.4	43.7	60.2	76.7	6198.0	12429.0
31013119180000	-79.31900	42.4424	18.9	710.2	13.9	31.2	44.6	61.5	78.3	6151.0	12374.0
31013119200000	-79.31000	42.4517	23.3	691.9	20.7	46.4	60.9	84.0	106.2	5285.0	11313.0
31013119220000	-79.36950	42.4413	25.0	652.0	24.5	54.7	69.6	96.0	121.1	4845.0	10721.0
31013119230000	-79.22290	42.4405	28.0	899.2	21.2	47.4	62.8	86.3	109.0	5055.0	11009.0
31013119280000	-79.35500	42.4655	22.0	638.3	20.3	45.6	59.8	82.5	104.4	5382.0	11440.0
31013119290000	-79.36350	42.4654	22.4	630.9	21.3	47.6	61.9	85.5	108.1	5270.0	11294.0
31013119340000	-79.50250	42.3003	31.4	986.3	22.8	51.1	67.2	92.3	116.3	4746.0	10582.0
31013119400000	-79.47070	42.3009	29.4	1000.7	20.4	45.6	61.2	84.1	106.0	5087.0	11051.0
31013119410000	-79.48030	42.2937	33.2	989.1	24.4	54.6	71.2	97.9	123.1	4490.0	10213.0
31013119520000	-79.30410	42.4484	23.6	707.4	20.6	46.2	60.7	83.7	105.8	5290.0	11320.0
31013119610000	-79.36940	42.4490	25.1	661.4	24.3	54.6	69.5	95.9	121.0	4856.0	10735.0
31013119840000	-79.35920	42.4567	21.9	633.7	20.4	45.4	59.6	82.3	104.1	5378.0	11434.0
31013119850000	-79.35410	42.4606	19.7	637.6	16.8	37.7	51.4	70.9	90.0	5815.0	11979.0
31013120010000	-79.48840	42.1362	36.8	1226.8	22.7	50.8	68.0	93.1	117.1	4551.0	10302.0
31013120120000	-79.49800	42.1483	37.2	1170.1	24.1	54.0	71.4	97.8	122.9	4367.0	10030.0
31013120450000	-79.33120	42.4342	22.4	706.2	19.0	42.7	56.9	78.5	99.3	5496.0	11584.0
31013120540000	-79.45810	42.1402	36.4	1197.3	22.9	51.2	68.4	93.6	117.7	4529.0	10270.0
31013120770000	-79.17110	42.4880	25.8	707.8	23.7	53.2	68.2	94.1	118.7	4879.0	10768.0
31013120780000	-79.16180	42.4891	23.1	710.8	19.8	44.4	58.7	81.0	102.5	5394.0	11454.0
31013120900000	-79.16500	42.4836	26.5	716.6	24.4	54.6	69.8	96.2	121.3	4781.0	10631.0
31013120910000	-79.15600	42.4847	23.3	723.9	19.7	44.0	58.4	80.5	101.8	5392.0	11453.0
31013120930000	-79.15230	42.4786	24.7	783.3	20.0	44.9	59.6	82.1	103.8	5306.0	11340.0
31013120940000	-79.18390	42.4786	27.5	746.2	24.8	55.5	70.9	97.8	123.2	4704.0	10522.0

31013120950000	-79.19200	42.4785	23.4	733.0	19.6	43.9	58.3	80.4	101.7	5394.0	11455.0
31013120960000	-79.19000	42.4732	26.3	781.2	22.2	49.7	64.8	89.3	112.7	5012.0	10950.0
31013120990000	-79.18300	42.4559	28.4	810.5	24.0	53.7	69.3	95.4	120.2	4739.0	10571.0
31013121000000	-79.18840	42.4504	24.9	799.8	19.9	44.5	59.2	81.6	103.1	5306.0	11342.0
31013121010000	-79.17880	42.4497	28.6	858.3	22.8	50.3	66.0	90.7	114.4	4841.0	10715.0
31013121020000	-79.18320	42.4449	29.2	866.2	23.3	52.3	68.0	93.7	118.0	4770.0	10616.0
31013121030000	-79.14820	42.4652	27.4	853.7	21.5	48.3	63.5	87.4	110.3	5040.0	10988.0
31013121050000	-79.14950	42.4732	27.4	816.0	22.5	50.5	65.8	90.6	114.3	4930.0	10838.0
31013121230000	-79.43780	42.1088	39.2	1243.3	24.3	54.6	72.3	99.1	124.4	4275.0	9891.0
31013121300000	-79.40510	42.3863	28.4	807.7	24.0	53.8	69.3	95.5	120.4	4739.0	10571.0
31013121320000	-79.41650	42.3895	24.5	768.1	20.1	45.1	59.8	82.4	104.1	5302.0	11336.0
31013121330000	-79.42140	42.3850	24.5	769.0	20.1	45.1	59.7	82.3	104.1	5301.0	11335.0
31013121340000	-79.30290	42.4843	20.1	623.6	17.8	39.8	53.6	74.0	93.9	5710.0	11851.0
31013121510000	-79.46810	42.0413	42.1	1337.5	24.7	55.5	73.8	101.0	126.8	4133.0	9671.0
31013121510000	-79.46810	42.0413	39.0	1312.2	22.9	51.0	68.6	93.9	117.9	4448.0	10150.0
31013121520000	-79.31670	42.4566	20.8	669.7	17.6	39.4	53.3	73.5	93.3	5705.0	11844.0
31013121670000	-79.37620	42.4683	20.6	623.9	18.7	41.9	55.8	77.0	97.7	5603.0	11719.0
31013121680000	-79.37500	42.4628	20.9	641.6	18.6	41.7	55.6	76.8	97.3	5602.0	11717.0
31013121690000	-79.38590	42.4606	20.8	635.8	18.6	41.7	55.6	76.8	97.3	5600.0	11715.0
31013121700000	-79.37870	42.4588	22.0	643.1	20.3	45.5	59.7	82.4	104.2	5382.0	11440.0
31013121710000	-79.36930	42.4584	20.9	640.4	18.6	41.6	55.5	76.6	97.1	5599.0	11714.0
31013121730000	-79.35540	42.4723	21.2	625.5	19.5	43.7	57.7	79.7	101.0	5488.0	11575.0
31013121740000	-79.34040	42.4658	20.9	643.1	18.6	41.5	55.5	76.6	97.1	5599.0	11714.0
31013121750000	-79.34750	42.4638	22.2	650.4	20.2	45.4	59.6	82.2	104.0	5384.0	11442.0
31013121880000	-79.08190	42.5197	25.6	732.1	22.7	50.9	65.9	90.8	114.6	4997.0	10930.0
31013121880000	-79.08190	42.5197	23.8	723.3	20.5	45.9	60.4	83.3	105.3	5292.0	11323.0
31013121890000	-79.06270	42.5170	23.8	723.3	20.5	45.9	60.4	83.3	105.3	5292.0	11323.0
31013121900000	-79.64160	42.0856	34.3	1290.2	19.6	43.9	60.2	82.4	103.8	5033.0	10979.0
31013121910000	-79.09680	42.4973	24.7	748.6	21.0	47.0	61.8	85.1	107.6	5196.0	11197.0
31013121980000	-79.35890	42.4774	20.7	630.6	18.6	41.8	55.7	76.9	97.5	5602.0	11717.0
31013122020000	-79.15210	42.4958	24.0	698.9	21.5	48.1	62.7	86.5	109.3	5182.0	11179.0
31013122030000	-79.45770	42.0413	40.6	1351.2	23.4	52.4	70.3	96.2	120.7	4339.0	9988.0
31013122040000	-79.33400	42.2968	30.5	1079.3	19.9	44.6	60.3	82.7	104.4	5116.0	11091.0
31013122100000	-79.40170	42.4509	21.3	628.2	19.5	43.8	57.8	79.8	101.1	5491.0	11578.0
31013122110000	-79.37680	42.4523	21.0	650.8	18.5	41.5	55.5	76.6	97.0	5600.0	11715.0

31013122130000	-79.40050	42.4382	20.5	652.0	17.7	39.1	53.0	73.2	92.8	5704.0	11844.0
31013122140000	-79.38510	42.4328	22.6	677.9	20.0	44.9	59.2	81.6	103.3	5388.0	11447.0
31013122190000	-79.07300	42.5163	24.3	716.9	21.3	47.6	62.3	85.9	108.6	5187.0	11184.0
31013122200000	-79.08900	42.4998	24.5	735.8	21.1	47.2	61.9	85.3	107.8	5191.0	11190.0
31013122320000	-79.20570	42.3985	30.2	974.8	21.7	48.8	64.5	88.7	111.8	4911.0	10812.0
31013122330000	-79.20750	42.3920	30.7	1014.4	21.4	48.2	64.0	87.9	110.8	4934.0	10845.0
31013122340000	-79.23890	42.4156	34.3	1035.7	24.5	54.9	71.7	98.5	123.9	4448.0	10151.0
31013122350000	-79.24740	42.4096	34.0	1009.5	24.8	55.4	72.2	99.1	124.7	4422.0	10112.0
31013122360000	-79.23810	42.4092	30.3	1021.4	20.8	46.6	62.4	85.6	108.0	5009.0	10947.0
31013122370000	-79.23470	42.4001	34.7	1060.1	24.2	54.3	71.1	97.6	122.8	4455.0	10161.0
31013122380000	-79.24720	42.4001	33.1	1023.8	23.5	52.7	69.2	95.0	119.6	4595.0	10366.0
31013122390000	-79.25580	42.4000	32.8	1001.3	23.7	53.2	69.6	95.7	120.4	4583.0	10348.0
31013122400000	-79.26270	42.4008	26.2	970.8	17.8	39.8	54.5	74.9	94.8	5520.0	11614.0
31013122410000	-79.26070	42.3956	29.2	986.6	20.5	46.0	61.5	84.5	106.6	5085.0	11049.0
31013122420000	-79.25230	42.3951	30.5	1000.4	21.5	48.1	64.0	87.9	110.7	4914.0	10816.0
31013122430000	-79.25720	42.3848	30.3	984.8	21.6	48.5	64.3	88.3	111.4	4909.0	10810.0
31013122440000	-79.27260	42.4080	26.7	920.8	19.2	43.0	57.9	79.6	100.7	5333.0	11376.0
31013122450000	-79.27090	42.4011	30.4	952.2	22.5	50.4	66.3	91.2	114.9	4811.0	10673.0
31013122460000	-79.27890	42.4009	31.0	914.4	24.1	53.9	70.0	96.3	121.3	4616.0	10397.0
31013122580000	-79.07480	42.4955	22.8	764.7	18.0	40.3	54.5	75.1	95.2	5600.0	11714.0
31013122590000	-79.06820	42.5131	23.5	736.7	19.6	44.0	58.4	80.5	101.9	5397.0	11459.0
31013122640000	-79.08180	42.4913	27.5	783.0	23.6	52.9	68.2	94.0	118.6	4821.0	10687.0
31013122640000	-79.08180	42.4913	26.9	782.4	22.9	51.3	66.5	91.7	115.6	4916.0	10819.0
31013122650000	-79.12530	42.4739	28.7	871.4	22.7	50.8	66.4	91.4	115.2	4865.0	10749.0
31013122660000	-79.12810	42.4679	30.1	887.3	23.8	53.2	69.1	95.1	119.8	4690.0	10503.0
31013122670000	-79.13920	42.4650	28.2	872.0	22.0	49.3	64.8	89.1	112.4	4953.0	10870.0
31013122680000	-79.08030	42.4819	26.5	796.1	22.0	49.2	64.4	88.7	111.9	5014.0	10953.0
31013122730000	-79.20870	42.4233	27.9	890.3	21.2	47.4	62.8	86.4	109.0	5049.0	11000.0
31013122740000	-79.21510	42.4199	30.6	926.9	23.3	52.1	68.1	93.7	118.0	4706.0	10526.0
31013122750000	-79.21180	42.4144	26.2	931.2	18.5	41.5	56.3	77.4	97.9	5425.0	11495.0
31013122760000	-79.20820	42.4093	27.9	932.4	20.3	45.3	60.6	83.4	105.2	5152.0	11139.0
31013122770000	-79.20270	42.4066	32.7	953.7	24.8	55.6	72.1	99.1	124.7	4472.0	10186.0
31013122780000	-79.21470	42.3989	30.9	989.4	22.2	49.4	65.4	89.9	113.2	4820.0	10686.0
31013122860000	-79.28220	42.4064	30.2	898.6	23.6	53.0	68.9	94.8	119.5	4700.0	10517.0
31013122940000	-79.21720	42.4068	30.2	973.5	21.7	48.7	64.5	88.6	111.7	4904.0	10803.0

31013122950000	-79.24330	42.4338	29.1	937.3	21.5	48.1	63.7	87.6	110.4	4981.0	10908.0
31013122950000	-79.24330	42.4338	28.6	937.3	20.9	46.8	62.2	85.5	107.9	5069.0	11028.0
31013122960000	-79.28760	42.3994	25.8	859.2	19.5	43.4	58.3	80.3	101.4	5316.0	11354.0
31013122970000	-79.23260	42.4347	26.3	933.0	18.5	41.5	56.4	77.5	97.9	5427.0	11497.0
31013122980000	-79.22740	42.4295	28.0	939.4	20.3	45.3	60.6	83.3	105.2	5156.0	11144.0
31013122990000	-79.21810	42.4339	27.0	905.0	19.9	44.4	59.6	81.9	103.4	5237.0	11250.0
31013123000000	-79.23770	42.4301	26.1	961.6	17.8	39.9	54.6	75.1	95.0	5519.0	11614.0
31013123010000	-79.26790	42.4202	27.3	930.6	19.7	44.2	59.3	81.6	103.0	5246.0	11263.0
31013123020000	-79.27670	42.4186	27.2	882.4	20.7	46.3	61.5	84.6	106.8	5140.0	11123.0
31013123050000	-79.14830	42.4879	25.7	736.4	22.6	50.7	65.7	90.6	114.3	4993.0	10924.0
31013123060000	-79.14630	42.4819	25.8	783.3	21.5	48.1	63.0	86.9	109.7	5110.0	11083.0
31013123070000	-79.14040	42.4772	24.7	822.4	19.1	42.8	57.4	79.1	100.0	5410.0	11476.0
31013123070000	-79.14040	42.4772	27.5	822.1	22.5	50.4	65.7	90.5	114.2	4934.0	10844.0
31013123080000	-79.14330	42.4706	27.7	834.5	22.4	50.0	65.4	90.0	113.6	4936.0	10846.0
31013123090000	-79.13290	42.4754	28.9	841.9	23.6	52.9	68.5	94.4	118.9	4755.0	10595.0
31013123100000	-79.12760	42.4800	25.2	820.5	19.8	44.3	59.1	81.4	102.8	5312.0	11349.0
31013123290000	-79.06910	42.5000	25.1	773.3	20.8	46.7	61.5	84.8	107.1	5208.0	11213.0
31013123320000	-79.49890	42.0478	41.8	1358.2	24.1	54.0	72.3	98.9	124.1	4206.0	9786.0
31013123390000	-79.28350	42.4163	26.8	855.3	20.9	46.8	61.9	85.2	107.6	5136.0	11117.0
31013123510000	-79.25510	42.4139	27.7	997.0	18.8	42.0	57.2	78.5	99.2	5349.0	11396.0
31013123530000	-79.23170	42.4167	27.4	1015.0	18.1	40.6	55.6	76.4	96.5	5440.0	11513.0
31013123620000	-79.40930	42.1425	36.8	1224.1	22.7	48.9	66.6	91.0	114.2	4498.0	10224.0
31013123660000	-79.18240	42.3943	28.5	972.6	20.0	44.9	60.2	82.7	104.4	5166.0	11157.0
31013123670000	-79.18420	42.3893	29.2	981.8	20.5	46.6	61.9	85.2	107.5	5119.0	11095.0
31013123850000	-79.24070	42.4033	29.2	1026.9	19.7	44.1	59.5	81.7	103.2	5182.0	11178.0
31013123860000	-79.22920	42.3954	33.1	1067.1	22.6	50.6	67.0	92.0	115.8	4698.0	10514.0
31013123870000	-79.24110	42.3971	26.8	1053.4	16.9	37.9	52.6	72.2	91.4	5616.0	11735.0
31013123880000	-79.23610	42.3918	32.2	1083.6	21.4	48.1	64.2	88.1	111.0	4874.0	10761.0
31013123900000	-79.24310	42.3902	32.5	1061.9	22.1	49.5	65.8	90.3	113.7	4778.0	10627.0
31013123910000	-79.23850	42.3861	32.2	1045.5	22.2	49.8	66.1	90.7	114.2	4769.0	10614.0
31013123920000	-79.33800	42.4616	22.3	656.8	20.2	45.2	59.5	82.1	103.8	5384.0	11442.0
31013123970000	-79.28490	42.4217	26.6	836.7	21.0	47.1	62.2	85.6	108.1	5129.0	11108.0
31013124040000	-79.23950	42.4428	25.4	868.4	18.8	42.3	57.0	78.4	99.1	5417.0	11484.0
31013124110000	-79.42410	42.3906	24.2	748.3	20.3	45.4	60.0	82.7	104.6	5297.0	11329.0
31013124130000	-79.36630	42.3770	32.7	995.2	23.8	53.4	69.8	95.9	120.7	4581.0	10346.0

31013124140000	-79.36040	42.3720	30.1	1012.6	20.9	46.8	62.5	85.8	108.3	5007.0	10943.0
31013124180000	-79.16850	42.4628	20.4	792.5	14.4	32.1	45.7	62.9	80.0	6078.0	12290.0
31013124210000	-79.23410	42.3819	32.6	1027.8	22.9	51.2	67.6	92.9	116.9	4675.0	10481.0
31013124230000	-79.22390	42.4024	30.2	1020.8	20.8	46.7	62.4	85.7	108.1	5010.0	10948.0
31013124240000	-79.23020	42.4064	32.5	1024.1	23.0	51.4	67.8	93.1	117.2	4675.0	10481.0
31013124260000	-79.28490	42.4325	23.3	803.8	17.8	40.0	54.3	74.8	94.7	5602.0	11717.0
31013124270000	-79.21730	42.4251	29.5	964.1	21.2	47.7	63.3	87.0	109.8	4997.0	10930.0
31013124450000	-79.25940	42.3902	31.0	996.1	22.1	49.6	65.6	90.1	113.5	4831.0	10702.0
31013124580000	-79.41350	42.2894	29.8	1069.9	19.4	43.3	58.9	80.8	102.0	5192.0	11192.0
31013124770000	-79.21550	42.4397	26.4	905.0	19.3	43.2	58.2	80.0	101.1	5333.0	11376.0
31013124810000	-79.40360	42.2890	27.7	1121.4	16.7	37.4	52.2	71.6	90.5	5624.0	11745.0
31013124820000	-79.35380	42.2748	31.5	1031.8	21.8	48.9	64.9	89.1	112.3	4845.0	10720.0
31013124830000	-79.08680	42.3010	34.3	1072.3	23.6	52.8	69.6	95.5	120.1	4541.0	10287.0
31013124860000	-79.06430	42.2718	34.7	1104.0	23.3	52.0	68.9	94.5	118.8	4555.0	10308.0
31013124870000	-79.06600	42.2772	34.7	1108.0	23.2	52.1	68.9	94.5	118.9	4562.0	10318.0
31013124880000	-79.09600	42.3323	33.8	1082.0	23.0	51.5	68.1	93.4	117.6	4627.0	10411.0
31013124910000	-79.07130	42.2693	35.4	1118.6	23.6	53.0	70.0	96.0	120.7	4494.0	10218.0
31013124930000	-79.07250	42.2745	35.9	1108.3	24.2	54.3	71.4	98.0	123.2	4406.0	10088.0
31013125150000	-79.07110	42.2629	35.4	1116.8	23.7	53.0	70.0	96.0	120.7	4489.0	10211.0
31013125300000	-79.46320	42.0785	38.2	1246.9	23.4	52.3	69.9	95.7	120.2	4412.0	10097.0
31013125330000	-79.11460	42.2665	37.2	1213.1	23.2	52.1	69.4	95.0	119.5	4467.0	10179.0
31013125380000	-79.08180	42.2637	33.4	1089.7	22.4	50.0	66.5	91.3	114.9	4706.0	10525.0
31013125410000	-79.10340	42.3309	34.7	1107.3	23.2	52.0	68.8	94.4	118.8	4559.0	10313.0
31013125500000	-79.28780	42.4008	29.6	892.5	23.1	51.8	67.5	92.9	117.1	4786.0	10638.0
31013125780000	-79.49360	42.0442	41.2	1359.7	23.7	53.1	71.2	97.4	122.3	4277.0	9893.0
31013125790000	-79.49150	42.0497	39.9	1342.0	23.0	51.5	69.3	94.8	119.1	4398.0	10076.0
31013125800000	-79.48880	42.0548	40.5	1347.8	23.4	52.5	70.4	96.3	120.9	4339.0	9987.0
31013125810000	-79.49560	42.0541	39.7	1340.5	22.9	51.3	69.0	94.4	118.6	4419.0	10107.0
31013125820000	-79.50470	42.0424	42.8	1350.0	25.0	56.0	74.6	102.1	128.0	4068.0	9570.0
31013125830000	-79.51110	42.0449	42.3	1358.5	24.5	55.0	73.4	100.4	125.9	4140.0	9683.0
31013125840000	-79.50560	42.0580	37.3	1360.0	20.8	46.7	63.7	87.1	109.6	4767.0	10612.0
31013125850000	-79.50710	42.0530	40.5	1342.6	23.4	52.4	70.4	96.3	120.9	4329.0	9973.0
31013125860000	-79.51560	42.0534	44.1	1365.5	25.7	57.6	76.4	104.6	131.1	3954.0	9389.0
31013125870000	-79.49920	42.0594	39.9	1341.1	23.0	51.6	69.4	94.9	119.2	4399.0	10078.0
31013125880000	-79.46220	42.0474	39.6	1318.6	23.2	52.0	69.8	95.5	119.9	4385.0	10057.0

31013125890000	-79.44740	42.0339	42.1	1386.8	23.9	53.5	71.8	98.1	123.2	4225.0	9815.0
31013125910000	-79.46750	42.0350	42.8	1352.4	25.0	56.0	74.5	102.0	127.9	4070.0	9573.0
31013125920000	-79.44750	42.0408	43.7	1331.4	26.0	58.2	77.1	105.5	132.3	3924.0	9341.0
31013125930000	-79.45220	42.0463	47.0	1335.9	28.5	63.8	83.6	114.4	143.3	3569.0	8751.0
31013125970000	-79.50380	42.2756	31.3	1012.9	22.0	49.3	65.3	89.7	113.0	4838.0	10711.0
31013125980000	-79.43980	42.2788	33.7	1112.2	22.2	49.7	66.2	90.8	114.3	4718.0	10542.0
31013125990000	-79.46640	42.2630	31.6	1039.7	21.8	48.7	64.8	88.9	112.0	4847.0	10724.0
31013126000000	-79.44570	42.2528	34.0	1092.4	22.9	51.2	67.9	93.1	117.2	4630.0	10416.0
31013126010000	-79.43740	42.2508	32.9	1054.6	22.7	50.7	67.2	92.2	116.1	4689.0	10501.0
31013126020000	-79.42720	42.2591	31.4	1065.9	21.0	47.0	63.0	86.5	109.0	4942.0	10854.0
31013126030000	-79.42740	42.2531	33.8	1078.1	23.0	51.5	68.1	93.5	117.7	4624.0	10407.0
31013126040000	-79.41870	42.2585	34.0	1097.6	22.8	51.2	67.8	93.0	117.1	4637.0	10426.0
31013126050000	-79.41890	42.2662	32.7	1079.0	22.0	49.2	65.5	89.9	113.2	4785.0	10637.0
31013126060000	-79.41050	42.2649	34.1	1098.2	22.8	51.0	67.7	92.9	116.9	4631.0	10418.0
31013126070000	-79.40340	42.2627	36.8	1136.6	24.4	54.8	72.1	98.9	124.3	4352.0	10008.0
31013126080000	-79.39980	42.2751	36.1	1125.9	24.1	53.9	71.0	97.4	122.5	4416.0	10104.0
31013126090000	-79.39320	42.2701	34.7	1150.0	22.4	50.1	66.9	91.7	115.4	4661.0	10461.0
31013126100000	-79.39900	42.2673	37.9	1135.4	25.4	57.0	74.6	102.3	128.5	4199.0	9775.0
31013126110000	-79.39330	42.2634	38.6	1147.0	25.8	57.8	75.6	103.6	130.1	4136.0	9676.0
31013126120000	-79.39420	42.2579	35.5	1165.0	22.7	51.0	67.9	93.0	117.0	4594.0	10365.0
31013126140000	-79.39300	42.2517	37.2	1169.2	24.1	54.0	71.4	97.8	123.0	4367.0	10029.0
31013126150000	-79.41470	42.2524	37.1	1121.4	25.1	56.2	73.6	101.0	126.9	4263.0	9873.0
31013126160000	-79.38580	42.2512	35.7	1182.9	22.6	50.5	67.5	92.4	116.3	4598.0	10371.0
31013126230000	-79.21330	42.3956	30.9	1029.3	21.3	47.7	63.6	87.4	110.1	4929.0	10837.0
31013126240000	-79.25570	42.3708	30.0	1001.0	21.0	46.9	62.6	86.0	108.4	5000.0	10935.0
31013126250000	-79.26290	42.3679	30.9	1024.7	21.3	47.9	63.7	87.5	110.3	4931.0	10840.0
31013126540000	-79.30420	42.4946	19.9	615.1	17.8	38.5	52.5	72.3	91.7	5704.0	11843.0
31013126660000	-79.53080	42.3515	23.0	744.9	18.8	40.5	55.1	75.8	96.0	5485.0	11571.0
31013126670000	-79.53240	42.3568	22.9	737.9	18.9	42.3	56.6	78.1	98.8	5501.0	11591.0
31013126760000	-79.55180	42.3434	22.9	739.8	18.9	42.2	56.5	77.9	98.6	5498.0	11587.0
31013126770000	-79.55220	42.3503	21.7	731.2	17.4	39.0	53.0	73.0	92.6	5701.0	11840.0
31013127030000	-79.67880	42.0817	38.5	1226.8	24.0	53.9	71.5	97.9	123.0	4330.0	9975.0
31013127130000	-79.30330	42.3911	28.4	773.3	25.1	56.0	71.7	98.7	124.4	4617.0	10397.0
31013128050000	-79.59640	42.0702	42.2	1349.0	24.6	55.1	73.5	100.6	126.2	4133.0	9672.0
31013128370000	-79.32370	42.4701	21.6	651.7	19.4	43.4	57.5	79.3	100.5	5491.0	11578.0

31013129430000	-79.33590	42.0470	36.7	1304.9	21.2	47.3	64.4	88.0	110.7	4734.0	10565.0
31013129440000	-79.39090	42.0164	42.8	1397.2	24.2	54.2	72.6	99.3	124.6	4164.0	9721.0
31013129730000	-79.47430	42.0578	39.7	1283.8	24.0	53.6	71.4	97.8	122.8	4292.0	9917.0
31013129740000	-79.44590	42.0559	41.7	1308.5	25.0	55.9	74.3	101.7	127.5	4103.0	9625.0
31013129750000	-79.45410	42.0622	37.6	1289.6	22.2	49.7	66.9	91.6	115.1	4583.0	10349.0
31013129820000	-79.47360	42.0472	41.2	1312.5	24.5	54.9	73.1	100.1	125.6	4175.0	9737.0
31013129920000	-79.41900	42.0079	39.2	1379.2	21.9	49.1	66.6	91.0	114.4	4560.0	10315.0
31013130430000	-79.46240	42.0577	38.0	1274.1	22.7	50.7	68.2	93.3	117.2	4498.0	10224.0
31013130430000	-79.46240	42.0577	37.4	1274.1	22.3	49.8	67.1	91.8	115.3	4571.0	10331.0
31013130500000	-79.34850	42.4201	25.7	735.8	22.6	50.7	65.7	90.6	114.3	4992.0	10923.0
31013130580000	-79.32390	42.4750	20.5	648.0	17.7	39.6	53.5	73.8	93.6	5708.0	11848.0
31013132000000	-79.75850	42.2424	37.0	826.0	33.9	75.8	93.5	128.9	161.6	3504.0	8640.0
31013132020000	-79.76160	42.2342	29.2	861.4	23.4	52.4	68.1	93.7	118.1	4764.0	10607.0
31013132090000	-79.29550	42.3404	31.2	1049.4	21.1	47.4	63.4	87.0	109.6	4939.0	10851.0
31013132550000	-79.34090	42.0585	37.7	1346.0	21.3	47.8	65.0	88.9	111.7	4686.0	10496.0
31013132560000	-79.34640	42.0502	44.4	1343.3	26.3	59.0	78.0	106.7	133.8	3872.0	9257.0
31013132570000	-79.32980	42.0416	41.1	1346.9	23.8	53.3	71.4	97.7	122.7	4266.0	9877.0
31013132800000	-79.26930	42.2854	41.0	1249.7	25.6	57.5	75.7	103.7	130.1	4076.0	9582.0
31013133840100	-79.07390	42.4350	31.4	1027.5	21.9	49.0	65.1	89.4	112.6	4849.0	10726.0
31013135450000	-79.42980	42.0634	41.7	1353.0	24.2	54.9	72.7	99.6	125.1	4262.0	9871.0
31013135460000	-79.73660	42.2596	35.3	787.3	33.4	75.0	92.2	127.1	159.5	3620.0	8838.0
31013135500000	-79.43820	42.0618	39.7	1324.4	23.2	52.0	69.7	95.4	119.8	4393.0	10069.0
31013135520000	-79.45600	42.0705	39.1	1274.1	23.6	52.8	70.5	96.6	121.3	4358.0	10016.0
31013135740000	-79.39220	42.4107	21.1	727.0	16.6	37.3	51.2	70.5	89.5	5802.0	11963.0
31013135770000	-79.42450	42.0507	46.7	1306.7	28.8	64.6	84.3	115.5	144.6	3543.0	8706.0
31013136030000	-79.16670	42.2930	42.2	1305.8	25.5	57.1	75.5	103.4	129.7	4041.0	9528.0
31013136050000	-79.21680	42.2399	42.1	1298.5	25.5	57.5	75.8	103.9	130.3	4058.0	9555.0
31013136290000	-79.36630	42.4220	23.8	719.9	20.5	46.0	60.5	83.4	105.5	5293.0	11324.0
31013136300000	-79.36130	42.3808	33.2	993.3	24.4	54.8	71.3	98.0	123.3	4507.0	10237.0
31013136420000	-79.22590	42.4152	32.9	1009.2	23.7	53.0	69.5	95.5	120.1	4588.0	10356.0
31013136730000	-79.48130	42.0621	41.5	1289.9	25.2	56.4	74.7	102.3	128.3	4092.0	9608.0
31013136940000	-79.46290	42.0636	40.2	1278.0	24.4	54.8	72.7	99.6	125.0	4222.0	9810.0
31013136960000	-79.45840	42.0749	41.1	1258.8	25.5	57.0	75.3	103.2	129.5	4070.0	9574.0
31013137120000	-79.29700	42.4611	26.9	671.2	26.7	59.8	75.1	103.6	130.6	4553.0	10304.0
31013137300000	-79.18580	42.3821	29.1	977.5	20.6	46.9	62.1	85.5	107.9	5131.0	11111.0

31013137570000	-79.54470	42.2597	33.7	1028.7	24.0	53.7	70.4	96.7	121.6	4514.0	10248.0
31013137580000	-79.55330	42.2626	30.7	1053.4	20.6	46.2	62.0	85.1	107.3	5027.0	10971.0
31013137600000	-79.56430	42.2675	30.2	1015.0	20.9	46.7	62.4	85.7	108.1	5007.0	10943.0
31013137620000	-79.56940	42.2485	33.8	1037.5	23.9	53.5	70.2	96.4	121.2	4518.0	10254.0
31013137650000	-79.53660	42.2509	30.9	1030.2	21.3	47.6	63.6	87.3	110.0	4927.0	10834.0
31013137670000	-79.52940	42.2452	32.3	1047.0	22.2	49.7	66.0	90.6	114.1	4768.0	10613.0
31013137690000	-79.54010	42.2315	37.7	1118.9	25.6	57.4	74.9	102.8	129.1	4188.0	9757.0
31013137710000	-79.56200	42.2428	35.4	1076.3	24.6	55.0	72.1	98.9	124.4	4387.0	10060.0
31013137720000	-79.57180	42.2296	34.9	1122.0	23.1	51.7	68.6	94.1	118.3	4567.0	10325.0
31013137780000	-79.55720	42.2560	31.0	1038.8	21.2	47.6	63.5	87.2	109.8	4932.0	10841.0
31013137790000	-79.57250	42.2384	33.4	1090.9	22.4	50.1	66.6	91.4	115.0	4710.0	10531.0
31013137800000	-79.55910	42.2319	34.3	1116.2	22.7	50.8	67.4	92.5	116.4	4642.0	10434.0
31013137820000	-79.54680	42.2469	32.6	1073.2	22.0	49.3	65.6	90.0	113.4	4783.0	10634.0
31013138870000	-79.48150	42.2147	35.6	1085.7	24.5	54.8	71.8	98.6	123.9	4391.0	10066.0
31013138930000	-79.46370	42.1844	39.6	1099.7	27.9	62.2	80.4	110.3	138.4	3885.0	9277.0
31013138970000	-79.28710	42.4369	28.7	750.4	26.2	58.6	74.3	102.4	128.9	4512.0	10245.0
31013138990000	-79.52000	42.3770	26.7	690.7	25.6	57.3	72.5	100.1	126.1	4667.0	10470.0
31013139070000	-79.59580	42.3080	32.4	816.9	28.7	64.2	80.8	111.3	139.9	4125.0	9659.0
31013139120000	-79.58320	42.3097	27.7	875.4	21.3	47.9	63.2	87.0	109.7	5051.0	11003.0
31013139160000	-79.39410	42.0342	41.8	1364.6	24.1	53.9	72.2	98.7	123.9	4212.0	9794.0
31013139760000	-79.34090	42.0739	44.3	1296.6	27.3	60.7	79.9	109.3	137.0	3765.0	9081.0
31013139770000	-79.34680	42.0765	39.3	1292.1	23.4	52.5	70.2	96.1	120.7	4369.0	10033.0
31013141510000	-79.34310	42.0630	40.0	1351.2	22.9	51.4	69.2	94.7	118.9	4406.0	10089.0
31013141520000	-79.39010	42.0385	42.0	1329.8	24.8	55.3	73.7	100.9	126.5	4113.0	9641.0
31013141540000	-79.60270	42.3201	22.3	732.1	18.1	40.6	54.7	75.4	95.6	5599.0	11713.0
31013141580000	-79.62263	42.3117	22.3	735.5	18.1	34.7	50.8	68.9	86.8	5445.0	11520.0
31013141580000	-79.62260	42.3117	22.4	737.6	18.1	40.5	54.6	75.3	95.4	5598.0	11713.0
31013141590000	-79.61740	42.3193	25.3	746.2	21.8	48.9	63.7	87.8	110.9	5098.0	11066.0
31013141610000	-79.62070	42.3153	22.5	746.5	18.1	40.5	54.7	75.4	95.5	5600.0	11715.0
31013141670000	-79.11190	42.3866	35.8	1019.3	26.3	58.5	75.8	104.1	130.8	4185.0	9753.0
31013141710000	-79.11760	42.3786	34.2	1028.1	24.6	55.1	71.8	98.7	124.1	4440.0	10139.0
31013141730000	-79.24220	42.4499	41.2	812.3	39.7	88.9	107.6	148.4	185.8	2962.0	7658.0
31013141760000	-79.44470	42.0784	40.7	1268.6	25.0	55.8	74.0	101.3	127.1	4144.0	9689.0
31013141790000	-79.35380	42.0848	39.5	1262.8	24.1	54.0	71.9	98.4	123.6	4280.0	9898.0
31013141820000	-79.29350	42.2945	34.7	1022.0	25.2	56.3	73.2	100.6	126.5	4350.0	10005.0

31013142740000	-79.51000	42.2880	23.1	637.0	22.1	47.7	62.5	86.1	108.8	5140.0	11122.0
31013142800000	-79.12210	42.4915	30.1	771.5	27.3	61.2	77.2	106.5	133.9	4346.0	9998.0
31013142810000	-79.13220	42.4929	24.4	728.5	21.2	47.3	62.0	85.5	108.1	5189.0	11187.0
31013142880000	-79.23950	42.5049	26.2	623.6	27.6	61.8	76.9	106.3	133.9	4519.0	10255.0
31013142920000	-79.38360	42.0372	46.1	1353.3	27.4	61.4	80.9	110.7	138.7	3694.0	8964.0
31013142930000	-79.37660	42.0368	44.1	1369.5	25.6	57.5	76.3	104.4	130.9	3954.0	9389.0
31013142940000	-79.38790	42.0335	45.3	1378.3	26.4	59.1	78.3	107.1	134.3	3842.0	9208.0
31013142970000	-79.32280	42.0580	44.0	1361.2	25.7	57.7	76.5	104.7	131.3	3949.0	9382.0
31013142980000	-79.31290	42.0740	45.1	1358.2	26.6	59.5	78.7	107.7	135.0	3822.0	9176.0
31013143000000	-79.60310	42.2954	31.0	835.8	26.3	58.9	75.1	103.5	130.2	4392.0	10067.0
31013143010000	-79.60170	42.2920	29.0	854.1	23.5	52.2	68.0	93.6	117.9	4755.0	10594.0
31013143070000	-79.30760	42.0504	44.7	1374.0	26.0	58.3	77.3	105.8	132.6	3898.0	9298.0
31013143100000	-79.30770	42.0597	44.2	1328.3	26.5	59.3	78.3	107.1	134.3	3860.0	9237.0
31013143110000	-79.68570	42.2913	27.6	751.6	24.7	55.4	70.8	97.6	123.0	4707.0	10527.0
31013143170000	-79.73330	42.2736	22.1	761.1	17.3	38.7	52.8	72.8	92.3	5700.0	11838.0
31013143230000	-79.13030	42.4989	29.3	716.0	28.3	63.3	79.2	109.2	137.4	4299.0	9927.0
31013143260000	-79.31180	42.3857	25.0	884.2	18.1	40.7	55.3	76.0	96.2	5512.0	11604.0
31013143630000	-79.72430	42.2563	26.5	755.6	23.2	51.8	66.9	92.3	116.4	4899.0	10796.0
31013143650000	-79.35340	42.0798	38.5	1277.1	23.1	51.8	69.3	94.9	119.3	4431.0	10125.0
31013143820000	-79.26140	42.0417	37.1	1206.4	23.3	51.7	69.2	94.7	119.0	4452.0	10157.0
31013144190000	-79.53820	42.2455	33.6	1065.9	23.1	51.8	68.4	93.8	118.1	4616.0	10397.0
31013144290000	-79.62600	42.0009	40.4	1289.0	24.3	54.5	72.5	99.2	124.6	4227.0	9817.0
31013144300000	-79.33400	42.0765	39.2	1330.2	22.7	50.9	68.5	93.7	117.7	4464.0	10174.0
31013144320000	-79.62830	42.3180	26.7	733.7	24.2	54.2	69.4	95.7	120.6	4792.0	10646.0
31013144510000	-79.46510	42.2010	30.9	1111.3	19.7	44.1	59.9	82.1	103.5	5124.0	11102.0
31013144510000	-79.46510	42.2010	30.3	1105.8	19.2	43.0	58.6	80.3	101.4	5204.0	11208.0
31013144520000	-79.47180	42.2009	31.7	1130.8	20.1	45.0	61.0	83.6	105.4	5052.0	11005.0
31013144530000	-79.46820	42.1965	37.9	1138.4	25.4	56.9	74.5	102.3	128.4	4205.0	9783.0
31013144540000	-79.47490	42.1965	35.0	1129.0	23.0	51.6	68.5	93.9	118.1	4572.0	10333.0
31013144620000	-79.59830	42.2569	33.6	1065.3	23.1	51.8	68.4	93.9	118.1	4618.0	10399.0
31013144630000	-79.60530	42.2580	33.5	1054.0	23.2	52.0	68.5	94.1	118.4	4608.0	10385.0
31013144640000	-79.59350	42.2503	33.7	1068.3	23.1	51.7	68.3	93.8	118.0	4618.0	10400.0
31013144650000	-79.58590	42.2503	32.7	1034.5	22.9	51.1	67.5	92.6	116.6	4677.0	10484.0
31013144740000	-79.58500	42.2747	33.3	1000.7	24.3	54.4	71.0	97.5	122.7	4498.0	10224.0
31013144800000	-79.55900	42.2926	29.0	929.8	21.5	48.2	63.8	87.7	110.6	4975.0	10900.0

31013144950000	-79.56810	42.2248	36.2	1135.7	24.0	53.7	70.8	97.2	122.1	4423.0	10113.0
31013144970000	-79.57840	42.2193	35.3	1152.1	22.8	51.3	68.1	93.4	117.5	4590.0	10358.0
31013145030000	-79.49280	42.0608	41.3	1323.1	24.4	54.7	72.9	99.8	125.2	4181.0	9747.0
31013145320000	-79.52690	42.2880	31.9	1020.8	22.5	50.4	66.5	91.4	115.1	4761.0	10604.0
31013145440000	-79.54180	42.2264	33.6	1145.7	21.4	48.1	64.5	88.4	111.3	4817.0	10682.0
31013145450000	-79.56140	42.2221	36.8	1136.9	24.4	54.6	72.0	98.7	124.0	4345.0	9997.0
31013145470000	-79.60170	42.2073	39.6	1094.8	27.9	62.3	80.5	110.4	138.6	3880.0	9269.0
31013145480000	-79.60160	42.2146	36.0	1121.1	24.1	54.1	71.2	97.6	122.7	4417.0	10105.0
31013145490000	-79.61120	42.2164	33.7	1110.4	22.2	49.8	66.3	90.9	114.4	4719.0	10543.0
31013145500000	-79.61840	42.2158	31.4	1111.3	20.2	45.3	61.2	83.9	105.8	5043.0	10992.0
31013145520000	-79.61530	42.2223	34.3	1117.7	22.7	50.8	67.5	92.5	116.5	4649.0	10444.0
31013145530000	-79.60710	42.2250	32.0	1113.7	20.7	46.4	62.4	85.6	107.9	4963.0	10884.0
31013145540000	-79.59620	42.2257	35.1	1090.0	23.9	53.5	70.5	96.7	121.6	4471.0	10184.0
31013145550000	-79.60360	42.2329	36.9	1100.6	25.3	56.7	74.1	101.7	127.8	4250.0	9852.0
31013145560000	-79.61640	42.2322	37.9	1096.7	26.4	58.9	76.7	105.2	132.1	4097.0	9615.0
31013145570000	-79.62010	42.2275	35.8	1107.6	24.2	54.3	71.4	98.0	123.2	4406.0	10087.0
31013145580000	-79.62360	42.2220	35.3	1108.3	23.7	53.1	70.1	96.1	120.9	4481.0	10199.0
31013145590000	-79.63970	42.2125	36.1	1125.3	24.1	53.9	71.0	97.4	122.5	4415.0	10102.0
31013145600000	-79.63270	42.2120	36.6	1123.8	24.6	55.0	72.3	99.2	124.7	4339.0	9988.0
31013145620000	-79.63330	42.1973	33.4	1136.6	21.5	48.2	64.6	88.6	111.5	4811.0	10673.0
31013145630000	-79.64140	42.1959	34.4	1124.1	22.6	50.6	67.3	92.2	116.0	4645.0	10438.0
31013145640000	-79.64120	42.1901	33.6	1145.4	21.4	48.1	64.5	88.4	111.3	4816.0	10680.0
31013145650000	-79.59460	42.2153	35.9	1110.4	24.2	54.2	71.3	97.8	123.0	4406.0	10088.0
31013145680000	-79.48620	42.2732	33.5	1011.9	24.2	54.1	70.7	97.2	122.3	4504.0	10234.0
31013145870000	-79.23980	42.1555	40.2	1273.0	24.5	54.9	72.9	99.8	125.3	4220.0	9807.0
31013145880000	-79.34260	42.0677	43.3	1350.1	25.4	57.0	75.7	103.6	129.9	4010.0	9478.0
31013145890000	-79.46920	42.2055	36.3	1101.9	24.8	55.5	72.8	99.8	125.5	4324.0	9965.0
31013145910000	-79.24170	42.1259	33.9	1262.5	19.7	44.2	60.5	82.8	104.3	5021.0	10962.0
31013145970000	-79.35980	42.4224	26.5	718.1	24.4	54.5	69.7	96.2	121.2	4782.0	10632.0
31013145980000	-79.63370	42.1831	37.7	1165.0	24.6	55.2	72.7	99.7	125.2	4291.0	9915.0
31013146170000	-79.49410	42.2104	37.3	1130.5	25.0	56.0	73.5	100.8	126.6	4271.0	9885.0
31013146180000	-79.46280	42.1941	35.8	1106.3	24.3	54.2	71.3	97.8	123.0	4401.0	10080.0
31013146310000	-79.63850	42.3140	22.9	738.4	18.9	42.3	56.6	78.0	98.7	5499.0	11588.0
31013146320000	-79.63780	42.3187	23.3	723.3	19.7	44.2	58.6	80.8	102.2	5395.0	11456.0
31013146330000	-79.63290	42.3211	28.9	730.0	27.3	61.3	77.0	106.2	133.7	4420.0	10109.0

31013146340000	-79.63330	42.3161	25.1	738.5	21.9	49.0	63.8	88.0	111.1	5094.0	11061.0
31013146350000	-79.63310	42.3117	23.6	745.1	19.6	43.8	58.3	80.4	101.7	5398.0	11460.0
31013146530000	-79.50780	42.2155	37.2	1124.7	25.1	56.1	73.6	100.9	126.8	4266.0	9877.0
31013146550000	-79.51580	42.2087	37.3	1136.3	24.9	55.9	73.3	100.6	126.4	4274.0	9889.0
31013147720000	-79.13420	42.4869	27.9	777.5	24.4	54.6	70.1	96.6	121.7	4722.0	10548.0
31013147750000	-79.47150	42.1824	36.0	1119.5	24.1	54.0	71.2	97.6	122.7	4413.0	10099.0
31013147760000	-79.47570	42.1863	33.1	1109.8	21.7	48.7	65.0	89.2	112.3	4798.0	10656.0
31013147770000	-79.50120	42.2128	36.7	1128.4	24.5	54.9	72.2	99.0	124.4	4341.0	9991.0
31013147780000	-79.50360	42.2199	37.1	1120.7	25.1	56.3	73.7	101.1	127.1	4270.0	9883.0
31013147840000	-79.35650	42.4284	24.1	705.9	21.4	47.9	62.6	86.3	109.0	5184.0	11181.0
31013147850000	-79.58670	42.2729	27.2	1003.4	18.2	40.6	55.6	76.4	96.5	5436.0	11508.0
31013147950000	-79.58650	42.3434	24.1	708.4	21.4	47.8	62.5	86.2	108.9	5185.0	11182.0
31013148090000	-79.55310	42.2128	37.5	1152.8	24.8	55.4	72.9	100.0	125.6	4282.0	9902.0
31013148100000	-79.54810	42.2159	35.3	1153.7	22.8	51.1	68.0	93.2	117.3	4584.0	10350.0
31013148180000	-79.61160	42.2261	34.3	1116.8	22.7	50.8	67.4	92.5	116.4	4645.0	10438.0
31013148210000	-79.53830	42.1991	37.5	1151.4	24.8	55.5	73.0	100.1	125.7	4282.0	9902.0
31013148270000	-79.21920	42.1979	39.9	1251.8	24.7	55.3	73.3	100.4	126.0	4205.0	9784.0
31013148290000	-79.22790	42.2150	39.2	1243.6	24.3	54.5	72.3	99.0	124.3	4269.0	9881.0
31013148360000	-79.59690	42.3429	24.0	697.1	21.5	48.1	62.7	86.5	109.3	5182.0	11178.0
31013148450000	-79.60840	42.2213	34.5	1088.8	23.4	52.1	69.0	94.6	119.0	4542.0	10288.0
31013148470000	-79.60200	42.2198	36.1	1126.5	24.1	54.0	71.1	97.5	122.6	4423.0	10113.0
31013148480000	-79.61210	42.2091	35.5	1122.3	23.6	52.9	69.8	95.8	120.5	4490.0	10213.0
31013148590000	-79.62300	42.3223	25.1	736.7	21.9	49.0	63.9	88.1	111.2	5093.0	11060.0
31013148600000	-79.61780	42.3238	22.4	741.9	18.1	40.5	54.7	75.4	95.5	5600.0	11715.0
31013148610000	-79.62200	42.3275	24.4	723.9	21.2	47.7	62.3	86.0	108.6	5195.0	11195.0
31013148800000	-79.49460	42.1053	38.1	1243.6	23.4	53.1	70.3	96.4	121.2	4462.0	10172.0
31013148820000	-79.60510	42.2421	34.7	1108.0	23.2	52.1	68.9	94.5	118.9	4563.0	10319.0
31013148830000	-79.59830	42.2436	33.5	1097.3	22.3	50.0	66.5	91.3	114.9	4715.0	10538.0
31013148840000	-79.60710	42.2473	35.1	1092.4	23.9	53.5	70.5	96.7	121.6	4475.0	10190.0
31013148850000	-79.59850	42.2488	35.4	1074.4	24.6	54.9	72.0	98.8	124.2	4381.0	10051.0
31013148860000	-79.61140	42.2514	36.5	1073.2	25.6	57.4	74.7	102.6	128.9	4232.0	9825.0
31013148870000	-79.60360	42.2528	35.5	1079.0	24.5	55.0	72.0	98.9	124.3	4389.0	10063.0
31013148920000	-79.48780	42.1748	37.1	1116.2	25.2	56.2	73.6	101.0	126.9	4256.0	9862.0
31013150020000	-79.52250	42.2115	37.3	1132.6	25.0	55.9	73.4	100.7	126.5	4271.0	9884.0
31013150240000	-79.54400	42.2884	32.7	996.4	23.8	53.3	69.8	95.9	120.6	4582.0	10347.0

31013150330000	-79.51740	42.2221	36.9	1104.3	25.3	56.6	74.0	101.6	127.6	4253.0	9857.0
31013151800000	-79.55920	42.2010	38.6	1151.2	25.7	57.6	75.4	103.5	129.9	4138.0	9679.0
31013151810000	-79.57930	42.1957	37.5	1146.1	24.8	55.6	73.1	100.3	126.0	4280.0	9898.0
31013151820000	-79.57330	42.1978	35.8	1145.4	23.4	52.4	69.4	95.2	119.7	4504.0	10232.0
31013151830000	-79.57270	42.2028	35.8	1150.3	23.3	52.3	69.3	95.1	119.5	4507.0	10238.0
31013151840000	-79.56450	42.2148	34.8	1156.4	22.3	50.0	66.8	91.5	115.2	4665.0	10467.0
31013151840000	-79.56450	42.2148	35.8	1150.3	23.3	52.3	69.3	95.0	119.5	4506.0	10235.0
31013151850000	-79.56740	42.2104	34.8	1156.4	22.3	50.0	66.8	91.5	115.1	4664.0	10465.0
31013151860000	-79.57480	42.1916	36.7	1176.8	23.6	52.8	70.1	96.0	120.7	4449.0	10151.0
31013152000000	-79.52890	42.2388	34.5	1091.8	23.4	52.4	69.2	94.9	119.4	4551.0	10302.0
31013152010000	-79.56350	42.1962	37.6	1154.0	24.8	55.4	72.9	100.0	125.6	4284.0	9905.0
31013152020000	-79.56480	42.2059	36.1	1167.5	23.2	52.0	69.0	94.7	119.0	4522.0	10260.0
31013152040000	-79.55170	42.2886	32.8	926.6	25.7	57.5	74.1	101.9	128.1	4366.0	10028.0
31013152050000	-79.54850	42.2852	29.2	945.3	21.4	47.7	63.3	87.0	109.8	4977.0	10903.0
31013152070000	-79.52810	42.2341	34.8	1109.2	23.2	52.0	68.8	94.4	118.8	4561.0	10317.0
31013152140000	-79.59000	42.3401	20.8	710.8	16.7	37.3	51.1	70.5	89.5	5804.0	11965.0
31013152310000	-79.55810	42.2161	38.1	1152.8	25.2	56.6	74.2	101.8	127.8	4211.0	9793.0
31013152320000	-79.55860	42.2098	38.2	1161.9	25.1	56.3	74.0	101.5	127.4	4217.0	9803.0
31013152330000	-79.52850	42.2031	36.6	1125.6	24.6	55.0	72.3	99.1	124.6	4340.0	9989.0
31013152360000	-79.57630	42.3478	24.1	705.0	21.4	47.9	62.5	86.3	109.0	5184.0	11180.0
31013152590000	-79.26640	42.0368	44.1	1320.7	26.6	59.6	78.5	107.5	134.8	3863.0	9241.0
31013152700000	-79.74610	42.2294	29.9	913.5	22.9	51.2	67.1	92.2	116.2	4791.0	10645.0
31013152720000	-79.38760	42.0592	41.4	1284.4	25.2	56.5	74.8	102.5	128.6	4089.0	9604.0
31013152980000	-79.58100	42.2146	42.4	1142.9	29.2	65.5	84.3	115.7	145.1	3660.0	8905.0
31013153100000	-79.66680	42.2989	20.7	735.5	15.9	35.4	49.2	67.8	86.1	5900.0	12080.0
31013153200000	-79.64420	42.3095	28.0	741.6	25.6	57.3	72.8	100.4	126.5	4603.0	10378.0
31013153210000	-79.63780	42.3095	22.5	745.7	18.1	40.4	54.6	75.3	95.4	5599.0	11714.0
31013153310000	-79.53540	42.2408	34.6	1094.1	23.4	52.4	69.1	94.9	119.3	4554.0	10306.0
31013153340000	-79.50050	42.2003	44.8	1158.2	30.9	69.4	88.8	121.9	152.6	3430.0	8510.0
31013153350000	-79.50520	42.1968	36.3	1143.6	23.9	53.6	70.7	97.0	122.0	4435.0	10131.0
31013153360000	-79.50670	42.2021	33.7	1157.3	21.4	47.9	64.3	88.2	111.0	4824.0	10692.0
31013153370000	-79.58590	42.1974	34.4	1127.8	22.6	50.4	67.2	92.1	115.9	4646.0	10440.0
31013153380000	-79.58600	42.2024	40.4	1118.9	28.1	62.9	81.2	111.4	139.8	3835.0	9196.0
31013153380000	-79.58600	42.2024	39.8	1115.0	27.7	61.8	80.0	109.8	137.7	3898.0	9298.0
31013153410000	-79.52940	42.2233	39.4	1125.6	27.0	60.5	78.6	107.8	135.3	3979.0	9429.0

31013153420000	-79.51830	42.2271	37.4	1100.9	25.8	57.9	75.4	103.5	130.0	4178.0	9741.0
31013153430000	-79.51120	42.2251	35.5	1080.5	24.5	54.7	71.8	98.6	123.9	4384.0	10056.0
31013153440000	-79.48590	42.1798	37.0	1112.2	25.2	56.4	73.8	101.3	127.2	4256.0	9862.0
31013153560000	-79.21400	42.2327	42.0	1287.5	25.6	57.3	75.8	103.8	130.2	4023.0	9498.0
31013153600000	-79.35705	42.2040	36.9	1185.7	23.5	47.1	68.1	91.9	114.6	4002.0	9466.0
31013153600000	-79.35710	42.2040	36.9	1185.7	23.5	52.4	69.7	95.5	120.0	4446.0	10147.0
31013153620000	-79.29940	42.2235	31.6	1135.1	19.9	44.7	60.5	83.0	104.7	5079.0	11042.0
31013153640000	-79.58940	42.2462	32.3	1048.2	22.2	49.7	66.0	90.6	114.0	4769.0	10614.0
31013153660000	-79.63330	42.2026	36.2	1133.6	24.0	53.7	70.9	97.2	122.2	4421.0	10111.0
31013153670000	-79.54990	42.3555	28.7	719.3	27.5	61.6	77.3	106.6	134.1	4399.0	10077.0
31013153680000	-79.53880	42.3612	26.5	715.4	24.4	54.7	69.9	96.4	121.5	4782.0	10633.0
31013153730000	-79.45590	42.0556	41.6	1298.1	25.1	56.2	74.6	102.1	128.1	4099.0	9619.0
31013153890000	-79.53940	42.3674	23.4	696.5	20.7	46.3	60.8	83.8	106.0	5285.0	11314.0
31013153970000	-79.57500	42.2086	36.3	1140.0	23.9	53.6	70.7	97.0	121.9	4424.0	10115.0
31013153990000	-79.58030	42.2045	36.7	1130.8	24.5	54.9	72.2	99.0	124.4	4344.0	9995.0
31013154070000	-79.58350	42.2927	27.7	875.4	21.3	47.8	63.1	86.9	109.6	5046.0	10997.0
31013154080000	-79.20770	42.2093	41.5	1289.9	25.2	56.4	74.8	102.4	128.4	4095.0	9613.0
31013154090000	-79.20570	42.2143	41.6	1297.8	25.1	56.3	74.6	102.1	128.1	4101.0	9622.0
31013154100000	-79.19950	42.2367	42.5	1328.3	25.2	56.5	75.0	102.7	128.8	4054.0	9548.0
31013154110000	-79.20340	42.2265	42.3	1315.2	25.4	56.8	75.3	103.1	129.4	4047.0	9537.0
31013154120000	-79.20310	42.2432	42.5	1327.7	25.2	56.6	75.1	102.8	128.9	4058.0	9555.0
31013154130000	-79.21950	42.2202	41.0	1293.3	24.7	55.4	73.6	100.7	126.4	4165.0	9722.0
31013154140000	-79.22420	42.2237	42.4	1274.1	26.2	58.8	77.3	105.9	132.9	3952.0	9386.0
31013154150000	-79.21340	42.2059	47.4	1272.8	30.2	67.6	87.5	120.0	150.2	3404.0	8465.0
31013154160000	-79.23000	42.2204	41.6	1257.3	26.0	58.1	76.5	104.8	131.5	4003.0	9467.0
31013154170000	-79.20320	42.2200	41.0	1299.7	24.7	55.2	73.4	100.5	126.1	4167.0	9725.0
31013154180000	-79.22660	42.2052	39.5	1222.9	25.0	55.9	73.8	101.2	127.0	4185.0	9752.0
31013154190000	-79.25490	42.2382	36.9	1143.8	24.4	54.8	72.0	98.8	124.1	4364.0	10025.0
31013154200000	-79.26330	42.2381	35.5	1124.7	23.6	53.0	69.9	95.9	120.6	4506.0	10236.0
31013154460000	-79.51570	42.2333	37.5	1104.6	25.8	57.8	75.3	103.4	129.9	4184.0	9752.0
31013154520000	-79.57440	42.2135	36.3	1139.8	23.9	53.6	70.7	97.0	122.0	4424.0	10115.0
31013154530000	-79.49010	42.2033	38.6	1147.6	25.8	57.8	75.6	103.7	130.2	4142.0	9686.0
31013154530000	-79.49010	42.2033	35.6	1129.4	23.5	52.5	69.6	95.4	120.0	4491.0	10213.0
31013154550000	-79.47870	42.2080	35.5	1123.2	23.6	53.0	69.9	95.9	120.6	4499.0	10226.0
31013154560000	-79.49580	42.1903	36.0	1117.7	24.1	54.0	71.1	97.5	122.6	4409.0	10092.0

31013154590000	-79.58250	42.1908	33.1	1154.9	20.9	46.8	63.1	86.5	108.9	4898.0	10794.0
31013154630000	-79.27430	42.0762	42.9	1360.6	24.9	55.8	74.4	101.8	127.7	4078.0	9586.0
31013154640000	-79.29900	42.0696	46.0	1386.2	26.7	59.8	79.2	108.3	135.7	3785.0	9114.0
31013154710000	-79.35300	42.0303	48.5	1408.5	28.0	62.8	82.8	113.3	141.8	3566.0	8746.0
31013154740000	-79.52850	42.1979	36.7	1131.9	24.5	54.9	72.2	99.0	124.4	4345.0	9996.0
31013154760000	-79.36420	42.0622	43.3	1346.0	25.5	57.1	75.8	103.7	130.0	4004.0	9468.0
31013154880000	-79.06710	42.2867	33.7	1068.3	23.1	51.7	68.3	93.7	117.9	4616.0	10396.0
31013154890000	-79.49420	42.1989	38.2	1157.6	25.2	56.5	74.1	101.6	127.7	4218.0	9804.0
31013154940000	-79.23090	42.0735	42.2	1350.6	24.6	55.2	73.5	100.6	126.2	4137.0	9679.0
31013154950000	-79.22610	42.0519	41.6	1298.5	25.1	56.2	74.5	102.0	128.0	4098.0	9617.0
31013154970000	-79.57150	42.3506	27.5	707.4	26.1	58.5	73.9	102.0	128.4	4581.0	10346.0
31013154980000	-79.28040	42.0656	41.8	1365.5	24.1	53.9	72.2	98.7	123.8	4210.0	9791.0
31013155050000	-79.63570	42.1779	40.6	1177.1	26.9	60.3	78.5	107.7	135.1	3952.0	9386.0
31013155060000	-79.28810	42.0567	39.1	1367.2	22.0	49.3	66.8	91.3	114.8	4554.0	10306.0
31013155090000	-79.29960	42.0365	43.7	1359.3	25.5	57.1	75.9	103.9	130.2	3985.0	9439.0
31013155200000	-79.11240	42.2380	44.0	1266.8	27.6	61.9	80.9	110.9	139.0	3759.0	9071.0
31013155230000	-79.10680	42.2293	43.3	1255.8	27.3	61.2	80.0	109.7	137.5	3809.0	9153.0
31013155260000	-79.18850	42.4334	27.2	881.8	20.7	46.3	61.5	84.6	106.8	5140.0	11123.0
31013155270000	-79.26740	42.3990	29.9	957.1	21.9	48.9	64.7	88.9	112.1	4897.0	10792.0
31013155360000	-79.51360	42.1005	41.8	1311.9	25.0	56.2	74.4	101.9	127.9	4128.0	9665.0
31013155370000	-79.50910	42.0956	41.3	1316.4	24.5	56.4	73.8	101.2	127.2	4307.0	9940.0
31013155410000	-79.40490	42.0683	39.5	1264.3	24.1	53.8	71.7	98.1	123.2	4276.0	9892.0
31013155420000	-79.50900	42.1868	37.8	1131.7	25.5	57.1	74.7	102.5	128.7	4201.0	9778.0
31013155430000	-79.56470	42.1817	39.6	1186.6	25.8	57.8	75.8	103.9	130.4	4090.0	9604.0
31013155440000	-79.57500	42.1866	37.2	1168.9	24.1	54.1	71.4	97.9	123.0	4368.0	10032.0
31013155590000	-79.48790	42.0399	43.4	1358.2	25.3	56.8	75.5	103.3	129.6	4010.0	9478.0
31013155630000	-79.58910	42.1753	37.6	1203.1	23.8	53.4	70.8	97.0	121.9	4391.0	10066.0
31013155640000	-79.58400	42.1784	37.8	1170.4	24.6	55.0	72.5	99.4	124.9	4292.0	9917.0
31013155640000	-79.58400	42.1784	41.1	1169.2	27.4	61.3	79.8	109.4	137.2	3871.0	9255.0
31013155650000	-79.59010	42.1804	38.7	1200.3	24.8	55.5	73.2	100.4	126.0	4249.0	9850.0
31013155660000	-79.58850	42.1859	41.1	1174.1	27.4	61.4	79.8	109.4	137.3	3879.0	9268.0
31013155730000	-79.19450	42.4302	32.5	865.6	27.2	60.8	77.4	106.5	133.9	4241.0	9838.0
31013155800000	-79.10920	42.2447	40.0	1262.5	24.6	55.1	73.1	100.1	125.6	4214.0	9797.0
31013155810000	-79.09490	42.2405	39.7	1238.7	24.8	55.6	73.5	100.8	126.5	4197.0	9771.0
31013155850000	-79.53250	42.2150	37.2	1167.2	24.1	54.2	71.5	98.0	123.2	4372.0	10037.0

31013155870000	-79.57710	42.1752	36.1	1167.1	23.2	51.8	68.9	94.4	118.7	4513.0	10246.0
31013155970000	-79.18690	42.4280	28.1	908.0	21.1	47.3	62.6	86.1	108.7	5058.0	11013.0
31013156070000	-79.25970	42.1300	41.5	1287.5	25.2	56.5	74.8	102.4	128.5	4092.0	9609.0
31013156100000	-79.62630	42.0070	40.3	1280.8	24.4	54.7	72.7	99.5	125.0	4224.0	9813.0
31013156100000	-79.62630	42.0070	41.4	1280.2	25.3	56.7	75.0	102.6	128.8	4087.0	9601.0
31013156270000	-79.35040	42.0574	40.0	1351.2	22.9	51.4	69.2	94.7	118.9	4406.0	10088.0
31013156320000	-79.54820	42.2912	31.0	991.2	22.2	49.9	65.8	90.4	113.9	4844.0	10719.0
31013156350000	-79.23940	42.1389	40.8	1277.6	24.9	55.5	73.7	100.9	126.6	4146.0	9692.0
31013156370000	-79.18070	42.4258	30.2	937.6	22.6	50.7	66.6	91.5	115.4	4802.0	10661.0
31013156410000	-79.50390	42.1900	37.2	1125.6	25.0	56.4	73.7	101.2	127.1	4288.0	9910.0
31013156410000	-79.50390	42.1900	37.7	1125.0	25.6	57.5	75.0	102.9	129.3	4214.0	9798.0
31013156420000	-79.50030	42.1856	36.6	1126.5	24.5	55.0	72.3	99.2	124.6	4343.0	9994.0
31013156450000	-79.18310	42.3665	33.1	945.2	25.5	56.8	73.5	101.0	127.0	4374.0	10041.0
31013156550000	-79.18180	42.3595	33.5	1016.2	24.1	54.1	70.7	97.1	122.2	4508.0	10239.0
31013156560000	-79.18920	42.3609	33.0	1061.6	22.6	50.7	67.1	92.1	116.0	4696.0	10512.0
31013156600000	-79.64180	42.0072	43.7	1334.7	26.0	58.2	77.1	105.5	132.3	3929.0	9350.0
31013156600000	-79.64180	42.0072	44.2	1333.5	26.4	59.2	78.2	107.0	134.2	3865.0	9245.0
31013156730000	-79.21610	42.3829	37.9	1095.2	26.4	59.1	76.8	105.4	132.4	4099.0	9619.0
31013156760000	-79.18160	42.0797	42.7	1296.9	26.0	58.2	76.8	105.2	131.9	3967.0	9409.0
31013156810000	-79.19750	42.2312	43.1	1331.4	25.6	57.4	76.1	104.2	130.6	3995.0	9454.0
31013156820000	-79.18940	42.2371	42.5	1331.4	25.2	56.3	74.9	102.5	128.6	4053.0	9546.0
31013156830000	-79.18950	42.2312	43.4	1357.3	25.4	56.9	75.6	103.4	129.7	4014.0	9485.0
31013156920000	-79.15180	42.2791	39.7	1231.7	24.9	55.8	73.7	101.0	126.7	4192.0	9763.0
31013156940000	-79.48770	42.1972	35.3	1154.3	22.8	51.2	68.0	93.3	117.3	4588.0	10356.0
31013156960000	-79.23200	42.1382	43.1	1333.8	25.6	57.4	76.1	104.1	130.6	4000.0	9462.0
31013156970000	-79.18060	42.4203	27.8	965.9	19.5	43.7	58.9	81.0	102.3	5255.0	11274.0
31013157210000	-79.55790	42.1751	41.0	1209.8	26.5	59.4	77.7	106.5	133.6	3972.0	9417.0
31013157240000	-79.51550	42.1880	36.1	1124.1	24.1	53.8	71.0	97.3	122.4	4412.0	10097.0
31013157440000	-79.08210	42.2276	41.2	1221.6	26.4	59.1	77.4	106.1	133.2	3983.0	9436.0
31013157520000	-79.07030	42.2915	33.5	1014.4	24.2	53.6	70.3	96.5	121.4	4495.0	10220.0
31013157550000	-79.63420	42.0149	46.3	1278.3	29.2	65.5	85.2	116.7	146.2	3529.0	8683.0
31013157570000	-79.40528	42.2345	39.9	1160.1	26.6	53.5	75.9	102.7	128.0	3494.0	8622.0
31013157570000	-79.40530	42.2345	39.9	1160.1	26.6	59.0	77.3	105.9	132.9	3988.0	9444.0
31013157570000	-79.40530	42.2345	40.3	1154.0	27.2	60.1	78.5	107.7	135.0	3912.0	9321.0
31013157580000	-79.40065	42.2305	29.7	1103.4	18.7	37.1	55.3	74.3	93.0	5043.0	10992.0

31013157580000	-79.40070	42.2305	30.4	1155.2	18.5	41.4	56.9	78.0	98.4	5301.0	11335.0
31013157700000	-79.65420	42.0007	44.1	1368.3	25.7	57.5	76.4	104.5	131.0	3955.0	9391.0
31013157710000	-79.66360	42.0023	45.2	1363.7	26.5	59.4	78.6	107.5	134.8	3825.0	9181.0
31013157750000	-79.56800	42.1867	40.2	1184.8	26.3	59.0	77.1	105.8	132.7	4025.0	9503.0
31013157750000	-79.56800	42.1867	39.1	1184.5	25.4	56.9	74.7	102.5	128.6	4164.0	9720.0
31013157760000	-79.64990	42.0154	44.1	1321.9	26.6	59.6	78.5	107.5	134.7	3863.0	9242.0
31013157770000	-79.55790	42.1816	38.8	1209.8	24.7	55.3	73.0	100.0	125.6	4251.0	9854.0
31013157780000	-79.63700	42.0104	41.5	1288.1	25.2	56.2	74.6	102.1	128.1	4086.0	9598.0
31013157790000	-79.65730	42.0111	43.7	1336.9	26.0	58.2	77.0	105.4	132.2	3930.0	9350.0
31013157800000	-79.65780	42.0049	42.9	1359.4	24.9	55.8	74.4	101.8	127.7	4075.0	9581.0
31013157810000	-79.61930	42.0025	42.1	1297.2	25.5	57.6	75.9	103.9	130.4	4063.0	9563.0
31013157810000	-79.61930	42.0025	37.0	1157.5	24.2	52.6	70.4	96.4	121.0	4324.0	9965.0
31013157820000	-79.55290	42.1784	37.6	1200.6	23.8	53.3	70.7	96.9	121.8	4384.0	10056.0
31013158050000	-79.66160	42.0227	41.4	1286.0	25.2	56.4	74.8	102.4	128.5	4089.0	9604.0
31013158060000	-79.65630	42.0259	41.3	1277.7	25.3	56.6	75.0	102.6	128.8	4084.0	9595.0
31013158070000	-79.66240	42.0281	41.7	1265.8	25.9	57.9	76.3	104.5	131.1	4009.0	9476.0
31013158110000	-79.53860	42.1873	37.2	1172.6	24.1	53.9	71.3	97.7	122.8	4369.0	10032.0
31013158130000	-79.59200	42.2001	37.8	1130.8	25.5	57.1	74.7	102.5	128.7	4199.0	9774.0
31013158140000	-79.51320	42.1927	39.4	1125.9	27.0	60.5	78.6	107.8	135.3	3980.0	9431.0
31013158150000	-79.51980	42.1927	37.0	1114.4	25.2	56.3	73.8	101.2	127.1	4258.0	9864.0
31013158190000	-79.19560	42.4148	28.2	911.1	21.1	47.1	62.5	86.0	108.5	5057.0	11011.0
31013158200000	-79.19360	42.4194	29.7	903.7	23.0	51.3	67.2	92.4	116.4	4784.0	10636.0
31013158260000	-79.37170	42.0509	42.6	1333.8	25.2	56.4	74.9	102.5	128.6	4057.0	9552.0
31013158370000	-79.57230	42.2912	32.6	1030.2	22.9	51.6	67.9	93.2	117.4	4699.0	10516.0
31013158530000	-79.65060	42.0105	43.2	1343.9	25.5	57.2	75.8	103.8	130.1	4003.0	9468.0
31013158530000	-79.65060	42.0105	43.8	1342.3	25.9	58.1	76.9	105.3	132.0	3938.0	9363.0
31013158540000	-79.65093	42.0055	40.7	1364.0	23.3	47.1	69.0	92.8	115.6	3898.0	9299.0
31013158540000	-79.65090	42.0055	40.7	1364.0	23.3	52.1	70.1	95.8	120.3	4346.0	9998.0
31013158550000	-79.50930	42.1783	37.3	1177.8	24.0	54.0	71.3	97.7	122.8	4380.0	10050.0
31013158560000	-79.51330	42.1743	36.1	1170.7	23.2	51.9	68.9	94.5	118.8	4518.0	10253.0
31013158570000	-79.57170	42.1787	38.8	1166.5	25.6	57.2	75.0	102.9	129.2	4146.0	9692.0
31013158580000	-79.53190	42.1933	37.2	1169.8	24.1	54.1	71.4	98.0	123.1	4376.0	10044.0
31013158590000	-79.65070	42.0311	41.8	1269.5	25.8	57.6	76.2	104.3	130.8	4007.0	9474.0
31013158600000	-79.65750	42.0316	40.8	1279.3	24.9	55.7	73.9	101.1	126.9	4155.0	9706.0
31013158650000	-79.36820	42.0735	41.2	1309.7	24.6	55.0	73.2	100.2	125.8	4174.0	9736.0

31013158660000	-79.36430	42.0771	42.3	1308.8	25.4	57.0	75.5	103.3	129.6	4041.0	9528.0
31013158670000	-79.57750	42.2554	32.6	1030.2	22.9	51.3	67.7	93.0	117.0	4679.0	10487.0
31013158680000	-79.57660	42.2597	32.5	1023.2	23.0	51.4	67.8	93.1	117.2	4674.0	10480.0
31013158760000	-79.43490	42.2462	31.3	1060.4	21.1	47.1	63.1	86.6	109.2	4939.0	10851.0
31013158900000	-79.60910	42.2643	33.8	1036.0	23.9	53.5	70.2	96.4	121.3	4517.0	10252.0
31013158910000	-79.66440	42.0338	41.8	1268.3	25.8	57.9	76.3	104.5	131.1	4011.0	9481.0
31013158920000	-79.64290	42.0140	41.4	1286.9	25.2	57.1	75.1	102.9	129.2	4145.0	9690.0
31013158930000	-79.64200	42.0365	41.2	1310.0	24.6	55.0	73.2	100.2	125.8	4175.0	9737.0
31013158940000	-79.63970	42.0189	27.7	876.0	21.3	45.7	61.7	84.6	106.6	4971.0	10894.0
31013159010000	-79.20830	42.0352	44.3	1384.1	25.5	57.1	76.0	104.0	130.4	3966.0	9409.0
31013159020000	-79.67520	42.0242	42.4	1270.7	26.3	58.7	77.3	105.9	132.9	3946.0	9376.0
31013159040000	-79.66830	42.0234	43.1	1285.7	26.5	59.5	78.2	107.1	134.3	3898.0	9298.0
31013159050000	-79.66840	42.0299	42.3	1265.2	26.3	59.0	77.6	106.2	133.2	3946.0	9376.0
31013159060000	-79.23260	42.1321	42.1	1295.1	25.6	57.2	75.7	103.7	130.1	4030.0	9510.0
31013159070000	-79.68180	42.0267	40.0	1259.7	24.6	55.0	73.0	99.9	125.5	4206.0	9785.0
31013159080000	-79.13230	42.3336	40.0	1218.6	25.5	56.2	74.5	102.0	128.0	4091.0	9607.0
31013159090000	-79.19400	42.4090	28.8	951.9	20.8	46.5	62.0	85.2	107.5	5073.0	11033.0
31013159100000	-79.18760	42.4072	29.4	961.3	21.3	47.6	63.2	86.9	109.6	4986.0	10916.0
31013159290000	-79.49360	42.1859	35.9	1110.7	24.2	54.1	71.2	97.7	122.8	4403.0	10084.0
31013159340000	-79.18100	42.0998	40.9	1289.9	24.8	55.5	73.6	100.8	126.5	4161.0	9716.0
31013159360000	-79.54920	42.1825	42.5	1196.6	28.0	62.8	81.6	111.9	140.3	3767.0	9085.0
31013159380000	-79.54610	42.1869	38.5	1186.0	24.9	55.8	73.5	100.7	126.5	4232.0	9826.0
31013159390000	-79.55090	42.1916	37.8	1174.1	24.5	55.0	72.5	99.4	124.9	4297.0	9925.0
31013159400000	-79.54430	42.1925	37.9	1179.9	24.5	54.9	72.4	99.3	124.7	4303.0	9934.0
31013159510000	-79.58170	42.1864	38.2	1157.0	25.2	56.4	74.1	101.6	127.6	4214.0	9797.0
31013159520000	-79.59930	42.1953	37.5	1153.4	24.8	55.5	73.0	100.1	125.7	4287.0	9909.0
31013159530000	-79.59280	42.1943	36.4	1152.1	23.8	53.4	70.5	96.7	121.6	4434.0	10130.0
31013159560000	-79.19192	42.1523	39.7	1234.4	24.9	49.3	71.8	96.7	120.4	3680.0	8939.0
31013159560000	-79.19190	42.1523	39.8	1239.9	24.8	55.6	73.5	100.7	126.5	4199.0	9775.0
31013159660000	-79.11410	42.0566	48.8	1488.0	26.8	60.0	79.9	109.3	136.8	3687.0	8951.0
31013159810000	-79.12130	42.0659	42.3	1404.8	23.7	53.1	71.4	97.7	122.5	4235.0	9830.0
31013159900000	-79.48090	42.1982	36.7	1134.2	24.5	54.8	72.1	98.9	124.2	4345.0	9996.0
31013159900000	-79.48090	42.1982	35.6	1134.2	23.5	52.6	69.6	95.4	120.0	4496.0	10221.0
31013159980000	-79.63320	42.0008	43.6	1329.5	26.1	58.4	77.2	105.7	132.5	3930.0	9350.0
31013160070000	-79.63330	42.0062	41.0	1299.1	24.7	55.2	73.4	100.5	126.1	4166.0	9724.0

31013160150000	-79.32590	42.0915	42.0	1289.0	25.6	57.4	75.9	103.9	130.3	4026.0	9505.0
31013160260000	-79.28360	42.2691	33.9	1126.5	22.1	49.5	66.0	90.5	113.9	4727.0	10555.0
31013160270000	-79.28970	42.2696	32.8	1085.4	21.9	49.0	65.3	89.7	112.9	4786.0	10638.0
31013160340000	-79.64250	42.0282	39.6	1271.9	24.1	54.1	71.9	98.4	123.6	4306.0	9937.0
31013160340000	-79.64250	42.0282	34.0	1271.0	19.7	44.3	60.5	82.9	104.4	5036.0	10982.0
31013160350000	-79.57730	42.2915	27.8	881.5	21.3	46.5	62.1	85.3	107.6	5031.0	10976.0
31013160510000	-79.24952	42.2301	36.6	1210.7	22.8	46.2	66.8	90.1	112.5	4132.0	9670.0
31013160510000	-79.24950	42.2301	36.7	1215.5	22.8	52.5	68.9	94.7	119.2	4666.0	10468.0
31013160530000	-79.59973	42.1680	41.2	1179.0	27.3	55.2	78.0	105.6	131.6	3370.0	8405.0
31013160530000	-79.59970	42.1680	41.3	1187.2	27.2	61.0	79.5	109.0	136.7	3891.0	9287.0
31013160550000	-79.30160	42.2186	35.5	1165.3	22.7	45.3	65.9	88.8	110.9	4161.0	9715.0
31013160550000	-79.30160	42.2186	35.5	1165.3	22.7	51.0	67.9	93.0	117.0	4595.0	10366.0
31013160590000	-79.65170	42.1319	37.2	1209.5	23.3	52.2	69.4	95.1	119.6	4465.0	10176.0
31013160600000	-79.23990	42.2274	36.5	1243.6	22.1	45.3	65.5	88.4	110.4	4249.0	9851.0
31013160600000	-79.23990	42.2274	39.3	1244.5	24.3	55.2	72.6	99.6	125.1	4329.0	9973.0
31013160610000	-79.24930	42.2248	24.0	813.2	18.5	39.5	54.7	75.0	94.7	5423.0	11492.0
31013160630000	-79.24950	42.2195	38.8	1210.1	24.7	56.3	73.5	100.9	126.8	4334.0	9981.0
31013160640000	-79.24175	42.2331	37.8	1230.8	23.4	47.8	68.8	92.8	115.9	4004.0	9468.0
31013160640000	-79.24180	42.2331	37.8	1233.5	23.4	52.6	69.9	95.8	120.5	4446.0	10148.0
31013160650000	-79.24915	42.2417	36.8	1182.9	23.5	47.4	68.3	92.2	115.1	4015.0	9486.0
31013160650000	-79.24920	42.2417	36.8	1182.9	23.5	53.7	70.4	96.7	121.6	4526.0	10266.0
31013160650000	-79.24920	42.2417	37.1	1181.1	23.8	54.2	71.1	97.6	122.7	4489.0	10211.0
31013160810000	-79.63840	42.0324	41.4	1280.5	25.3	56.5	74.9	102.5	128.6	4084.0	9595.0
31013160820000	-79.63450	42.0381	39.9	1296.3	23.8	53.4	71.3	97.6	122.6	4306.0	9938.0
31013160940000	-79.07510	42.2492	42.6	1156.1	29.1	65.0	83.9	115.1	144.3	3668.0	8920.0
31013162100000	-79.09160	42.0778	44.2	1380.7	25.5	57.2	76.1	104.1	130.5	3961.0	9401.0
31013162130000	-79.63620	42.0266	42.3	1263.1	26.3	59.2	77.7	106.4	133.5	3958.0	9396.0
31013162150000	-79.61780	42.0242	41.5	1289.3	25.2	56.4	74.7	102.3	128.4	4093.0	9609.0
31013162160000	-79.62830	42.0266	37.4	1271.6	22.3	49.9	67.2	91.9	115.5	4571.0	10331.0
31013162210000	-79.38990	42.2764	34.0	1140.3	22.0	49.2	65.8	90.2	113.6	4735.0	10566.0
31013162220000	-79.50600	42.0912	43.7	1333.2	26.0	58.8	77.3	105.9	132.9	3969.0	9414.0
31013162240000	-79.52580	42.1005	42.2	1300.0	25.5	57.3	75.7	103.7	130.1	4047.0	9538.0
31013162280000	-79.58910	42.2261	39.1	1103.7	27.3	61.2	79.1	108.6	136.3	3963.0	9404.0
31013162290000	-79.55790	42.0987	42.1	1295.4	25.6	57.2	75.7	103.6	130.0	4029.0	9509.0
31013162300000	-79.13660	42.0112	47.3	1452.1	26.4	59.1	78.7	107.6	134.8	3770.0	9090.0

31013162310000	-79.43303	42.0638	29.4	955.2	21.3	41.4	61.4	82.5	102.9	4453.0	10157.0
31013162310000	-79.43300	42.0638	28.9	925.4	21.6	45.8	62.7	85.7	107.8	4782.0	10632.0
31013162490000	-79.62740	42.0366	43.1	1283.8	26.5	59.7	78.3	107.3	134.6	3909.0	9317.0
31013162520000	-79.11270	42.0408	47.4	1462.1	26.3	58.7	78.4	107.1	134.1	3770.0	9090.0
31013162540000	-79.11920	42.2293	34.7	1193.3	21.6	48.1	64.8	88.8	111.7	4755.0	10595.0
31013162670000	-79.18600	42.4022	29.0	973.2	20.6	46.0	61.6	84.6	106.7	5077.0	11038.0
31013162900000	-79.27070	42.2377	35.1	1093.9	23.9	53.5	70.4	96.7	121.5	4477.0	10193.0
31013162940000	-79.64580	42.0024	43.5	1363.1	25.3	56.8	75.4	103.2	129.5	4019.0	9494.0
31013162950000	-79.53440	42.1786	35.9	1194.5	22.5	50.4	67.3	92.3	116.0	4607.0	10383.0
31013163050000	-79.34400	42.0916	40.2	1279.9	24.4	54.7	72.7	99.6	125.0	4224.0	9812.0
31013163080000	-79.22600	42.1324	42.5	1325.3	25.3	56.6	75.1	102.8	129.0	4053.0	9547.0
31013163120000	-79.17470	42.4021	36.5	992.7	27.7	62.1	79.6	109.4	137.4	4024.0	9501.0
31013163130000	-79.17400	42.3974	28.7	989.4	19.9	44.6	60.0	82.4	104.0	5171.0	11163.0
31013163190000	-79.06920	42.2431	37.4	1185.1	24.0	53.7	71.1	97.5	122.5	4379.0	10047.0
31013163210000	-79.54660	42.1971	34.2	1155.8	21.8	48.9	65.5	89.8	113.0	4741.0	10574.0
31013163250000	-79.71770	42.2695	23.5	780.3	18.6	41.8	56.2	77.4	97.9	5502.0	11592.0
31013163470000	-79.14140	42.0263	46.8	1407.0	26.9	60.0	79.6	108.9	136.3	3732.0	9026.0
31013163540000	-79.57720	42.1815	40.4	1158.2	27.1	60.7	78.9	108.3	135.8	3933.0	9355.0
31013163550000	-79.49380	42.1731	35.7	1142.7	23.4	52.5	69.5	95.3	119.8	4502.0	10231.0
31013163560000	-79.55670	42.1701	38.2	1203.1	24.3	54.3	71.9	98.5	123.7	4314.0	9950.0
31013163570000	-79.55310	42.2030	37.0	1157.0	24.2	54.3	71.7	98.3	123.5	4363.0	10023.0
31013163580000	-79.54520	42.2022	36.8	1141.8	24.4	54.5	71.8	98.5	123.8	4347.0	10000.0
31013163630000	-79.10140	42.0397	49.9	1533.1	26.7	59.8	79.9	109.2	136.7	3660.0	8906.0
31013163810000	-79.54200	42.1829	38.1	1194.8	24.3	54.6	72.1	98.9	124.2	4318.0	9955.0
31013163840000	-79.62068	42.1496	41.9	1188.7	27.7	55.9	79.0	106.8	133.1	3301.0	8282.0
31013163840000	-79.62070	42.1496	41.9	1192.7	27.6	61.9	80.5	110.4	138.5	3829.0	9187.0
31013163910000	-79.55470	42.1972	38.1	1153.4	25.2	56.5	74.2	101.7	127.7	4211.0	9793.0
31013163920000	-79.54120	42.2065	36.6	1163.4	23.7	53.1	70.3	96.4	121.2	4441.0	10141.0
31013163930000	-79.53740	42.2107	37.3	1175.6	24.1	54.0	71.3	97.8	122.8	4376.0	10043.0
31013163940000	-79.54380	42.2120	38.9	1172.6	25.5	57.2	75.0	102.9	129.1	4158.0	9711.0
31013163950000	-79.53920	42.2154	35.5	1163.4	22.7	51.0	67.9	93.0	117.0	4590.0	10359.0
31013163970000	-79.11740	42.0305	49.9	1533.8	26.7	59.8	79.9	109.1	136.6	3660.0	8907.0
31013164040000	-79.61440	42.0292	43.6	1328.3	26.1	58.4	77.2	105.7	132.6	3927.0	9345.0
31013164560000	-79.21530	42.0347	41.9	1374.3	24.0	53.7	72.0	98.4	123.5	4215.0	9799.0
31013164580000	-79.59410	42.0039	42.7	1346.6	25.0	56.1	74.6	102.1	128.1	4064.0	9564.0

31013164590000	-79.20170	42.0346	43.7	1380.4	25.1	56.3	75.0	102.6	128.7	4025.0	9502.0
31013164650000	-79.30560	42.0273	43.2	1339.6	25.5	57.1	75.8	103.8	130.1	3994.0	9453.0
31013164690000	-79.07360	42.2208	37.2	1172.3	24.1	53.9	71.3	97.7	122.8	4368.0	10031.0
31013164700000	-79.08250	42.2187	37.9	1179.6	24.5	54.7	72.3	99.1	124.4	4297.0	9924.0
31013164710000	-79.08700	42.2233	40.6	1215.5	26.0	58.2	76.4	104.7	131.4	4045.0	9534.0
31013164730000	-79.59330	42.2545	33.2	1073.2	22.5	50.6	67.0	91.9	115.7	4708.0	10528.0
31013164750000	-79.59000	42.2706	33.7	1026.3	24.0	53.9	70.5	96.8	121.8	4515.0	10250.0
31013164760000	-79.59290	42.2667	34.4	1039.7	24.4	54.7	71.5	98.3	123.6	4442.0	10142.0
31013164770000	-79.59140	42.2601	35.0	1046.7	24.9	55.7	72.7	99.9	125.5	4368.0	10031.0
31013164780000	-79.59830	42.2612	33.5	1058.9	23.2	52.0	68.5	94.0	118.4	4615.0	10394.0
31013164790000	-79.60250	42.2652	34.5	1050.7	24.3	54.5	71.3	97.9	123.2	4450.0	10153.0
31013164810000	-79.61420	42.2730	31.3	1016.8	21.9	49.2	65.2	89.5	112.8	4839.0	10713.0
31013164820000	-79.62960	42.1751	37.4	1182.0	24.0	53.8	71.2	97.5	122.6	4376.0	10043.0
31013164850000	-79.61820	42.1754	38.7	1203.7	24.7	55.4	73.1	100.2	125.8	4245.0	9845.0
31013164860000	-79.62380	42.1787	36.3	1182.9	23.1	51.6	68.7	94.1	118.3	4523.0	10261.0
31013164870000	-79.61710	42.1805	37.7	1206.1	23.8	53.3	70.7	96.9	121.8	4394.0	10071.0
31013164900000	-79.61300	42.1935	35.7	1143.0	23.4	52.3	69.4	95.1	119.6	4500.0	10228.0
31013164910000	-79.61270	42.1879	36.3	1185.4	23.0	51.7	68.7	94.2	118.5	4533.0	10275.0
31013164920000	-79.62180	42.2788	30.7	972.0	22.3	50.1	66.0	90.7	114.3	4823.0	10690.0
31013165110000	-79.07250	42.2572	35.7	1138.7	23.4	52.6	69.6	95.4	120.0	4504.0	10233.0
31013165270000	-79.17830	42.4413	25.2	896.1	18.1	39.8	54.6	74.9	94.8	5506.0	11598.0
31013165280000	-79.17030	42.4455	32.0	1199.7	19.2	43.8	59.4	81.4	102.8	5200.0	11202.0
31013165460000	-79.31100	42.0652	43.4	1353.0	25.4	56.9	75.6	103.4	129.7	4005.0	9471.0
31013165710000	-79.49330	42.1677	37.0	1155.2	24.3	54.3	71.7	98.3	123.5	4359.0	10018.0
31013165720000	-79.56840	42.3476	22.6	714.8	19.0	42.5	56.8	78.3	99.2	5496.0	11585.0
31013165820000	-79.50670	42.2018	37.6	1155.2	24.7	55.5	72.9	100.0	125.7	4290.0	9913.0
31013165860000	-79.61080	42.2429	35.3	1107.0	23.7	53.2	70.2	96.3	121.1	4483.0	10203.0
31013165900000	-79.19760	42.2696	41.0	1293.0	24.7	55.5	73.6	100.8	126.5	4173.0	9734.0
31013165920000	-79.19600	42.2571	39.8	1243.6	24.8	55.5	73.4	100.6	126.3	4199.0	9775.0
31013165930000	-79.19550	42.2424	42.5	1330.8	25.2	56.5	75.0	102.7	128.8	4058.0	9555.0
31013165940000	-79.61150	42.0476	42.6	1293.3	26.0	58.2	76.9	105.2	132.0	3962.0	9403.0
31013165960000	-79.61300	42.0368	43.1	1334.1	25.6	57.3	76.0	104.0	130.5	3995.0	9454.0
31013166130000	-79.20260	42.0521	40.1	1309.1	23.7	53.1	71.0	97.1	121.9	4308.0	9941.0
31013166150000	-79.20180	42.0467	40.4	1339.0	23.5	52.6	70.5	96.4	121.1	4329.0	9973.0
31013166160000	-79.60030	42.0334	41.0	1339.3	23.9	53.6	71.6	98.0	123.0	4267.0	9878.0

31013166170000	-79.59280	42.0377	38.8	1300.3	22.9	51.5	69.0	94.5	118.8	4455.0	10161.0
31013166190000	-79.16350	42.0133	42.9	1362.8	24.9	55.8	74.3	101.7	127.6	4078.0	9585.0
31013166200000	-79.15540	42.0125	44.0	1360.0	25.7	57.6	76.5	104.6	131.2	3945.0	9375.0
31013166210000	-79.16240	42.0072	44.0	1362.2	25.7	57.5	76.4	104.6	131.1	3947.0	9377.0
31013166220000	-79.27420	42.1867	35.6	1178.4	22.6	50.6	67.5	92.5	116.4	4595.0	10366.0
31013166230000	-79.27860	42.1905	38.4	1179.9	25.0	55.9	73.6	100.8	126.6	4227.0	9818.0
31013166820000	-79.60270	42.2884	28.8	912.0	21.7	48.6	64.1	88.1	111.2	4969.0	10892.0
31013166830000	-79.60730	42.2849	29.1	940.3	21.4	48.1	63.7	87.5	110.4	4984.0	10912.0
31013166860000	-79.61580	42.2882	27.5	862.3	21.5	47.9	63.3	87.0	109.8	5039.0	10987.0
31013166870000	-79.61380	42.2835	28.5	936.0	20.9	46.8	62.2	85.5	107.9	5069.0	11027.0
31013167080000	-79.26123	42.2198	34.7	1144.2	22.4	44.6	64.9	87.5	109.2	4237.0	9833.0
31013167080000	-79.26120	42.2198	34.7	1144.2	22.4	51.1	67.4	92.6	116.5	4717.0	10541.0
31013167090000	-79.58420	42.2234	32.1	1119.8	20.6	46.2	62.3	85.4	107.6	4963.0	10883.0
31013167100000	-79.58380	42.2291	36.5	1118.6	24.6	55.2	72.5	99.5	125.0	4341.0	9991.0
31013167110000	-79.57730	42.2322	36.0	1121.4	24.1	54.1	71.2	97.6	122.7	4418.0	10107.0
31013167130000	-79.58220	42.2377	28.9	1083.0	18.3	41.1	56.4	77.3	97.6	5367.0	11420.0
31013167940000	-79.61110	42.0092	42.6	1338.1	25.1	56.4	74.9	102.5	128.6	4069.0	9572.0
31013167950000	-79.61260	42.0040	41.8	1316.1	24.9	55.9	74.2	101.6	127.5	4117.0	9646.0
31013167960000	-79.60420	42.0061	42.4	1363.1	24.5	54.9	73.3	100.3	125.8	4145.0	9691.0
31013168120000	-79.16870	42.4117	31.9	1017.7	22.5	50.5	66.6	91.5	115.2	4762.0	10604.0
31013168200000	-79.31210	42.2007	28.3	876.3	22.0	48.4	64.0	88.0	110.9	4940.0	10852.0
31013168250000	-79.60760	42.0331	43.4	1355.1	25.4	57.0	75.6	103.5	129.8	4017.0	9489.0
31013168290000	-79.60020	42.0263	39.9	1295.4	23.8	53.4	71.2	97.5	122.4	4300.0	9929.0
31013168320000	-79.23440	42.2807	35.6	1129.3	23.5	52.7	69.7	95.6	120.2	4494.0	10218.0
31013168340000	-79.23180	42.2680	38.7	1202.7	24.7	55.5	73.2	100.3	126.0	4252.0	9856.0
31013168350000	-79.16660	42.4018	32.1	1032.1	22.4	50.1	66.3	91.0	114.7	4762.0	10605.0
31013168370000	-79.16000	42.4033	32.1	1031.4	22.4	50.1	66.3	91.0	114.6	4761.0	10603.0
31013168400000	-79.22560	42.2802	36.4	1149.1	23.8	53.2	70.4	96.6	121.4	4426.0	10118.0
31013168410000	-79.21770	42.2676	39.0	1225.6	24.5	54.8	72.6	99.4	124.8	4256.0	9861.0
31013168450000	-79.22010	42.2734	38.4	1221.6	24.1	54.1	71.6	98.1	123.3	4337.0	9984.0
31013168460000	-79.21770	42.2788	37.2	1172.0	24.1	54.3	71.5	98.1	123.3	4393.0	10069.0
31013168540000	-79.61810	42.0190	39.2	1280.8	23.5	52.7	70.4	96.4	121.1	4363.0	10024.0
31013168550000	-79.54340	42.1782	46.2	1175.6	31.6	70.6	90.5	124.1	155.4	3317.0	8311.0
31013168930000	-79.57030	42.1747	38.2	1206.4	24.2	54.4	71.9	98.6	123.8	4325.0	9966.0
31013168960000	-79.20320	42.1828	40.0	1256.1	24.7	55.2	73.2	100.3	125.9	4209.0	9789.0

31013168970000	-79.20430	42.1886	39.9	1253.3	24.7	55.2	73.2	100.3	125.9	4205.0	9783.0
31013168990000	-79.66990	42.0052	44.7	1326.2	26.9	60.3	79.4	108.7	136.3	3797.0	9134.0
31013169100000	-79.25642	42.2253	31.5	792.5	28.4	54.3	77.2	104.3	130.0	3308.0	8294.0
31013169100000	-79.25640	42.2253	36.6	1167.4	23.7	54.3	70.9	97.4	122.6	4546.0	10295.0
31013169390000	-79.16540	42.4187	30.5	996.4	21.6	48.3	64.1	88.1	111.0	4914.0	10817.0
31013169420000	-79.16100	42.4141	31.8	1010.7	22.5	50.5	66.6	91.5	115.3	4751.0	10589.0
31013169430000	-79.15990	42.4088	32.0	1026.3	22.4	50.2	66.4	91.2	114.9	4760.0	10602.0
31013169450000	-79.61000	42.0223	39.3	1293.0	23.4	52.5	70.2	96.1	120.7	4369.0	10033.0
31013169480000	-79.49970	42.0952	40.7	1316.4	24.1	54.4	72.2	98.9	124.2	4283.0	9903.0
31013169500000	-79.72050	42.2147	31.9	1018.0	22.5	50.4	66.6	91.4	115.1	4757.0	10597.0
31013169550000	-79.69260	42.0080	41.7	1311.3	25.0	55.9	74.3	101.7	127.5	4107.0	9631.0
31013169570000	-79.69420	42.0132	44.4	1302.4	27.2	60.9	80.0	109.6	137.3	3780.0	9106.0
31013169670000	-79.06330	42.3249	33.6	1060.7	23.2	51.9	68.5	94.0	118.3	4614.0	10393.0
31013169680000	-79.09900	42.2799	36.1	1129.0	24.0	53.8	71.0	97.4	122.4	4418.0	10106.0
31013169740000	-79.59000	42.2198	33.2	1120.1	21.6	48.5	64.9	89.0	112.0	4805.0	10665.0
31013169750000	-79.53120	42.2547	31.0	1032.1	21.3	47.6	63.5	87.2	109.9	4928.0	10836.0
31013169760000	-79.52870	42.2596	34.0	1051.0	23.8	53.3	70.0	96.1	120.9	4530.0	10271.0
31013169790000	-79.51920	42.2516	30.9	1031.1	21.3	47.6	63.6	87.3	110.0	4928.0	10835.0
31013169800000	-79.73010	42.0137	42.4	1320.7	25.3	56.8	75.2	103.0	129.2	4055.0	9549.0
31013169810000	-79.70130	42.0156	40.7	1318.9	24.1	53.9	71.9	98.5	123.6	4247.0	9849.0
31013169880000	-79.22310	42.2697	39.0	1226.5	24.5	54.9	72.7	99.6	125.0	4263.0	9872.0
31013169890000	-79.23180	42.2627	39.7	1193.3	25.8	57.9	75.8	103.9	130.5	4111.0	9638.0
31013170120000	-79.17290	42.4187	31.3	972.9	22.9	51.2	67.3	92.5	116.5	4732.0	10562.0
31013170130000	-79.15800	42.4189	31.2	1005.5	22.0	49.3	65.3	89.8	113.1	4833.0	10704.0
31013170280000	-79.52200	42.2600	32.4	1059.5	22.1	49.6	65.9	90.4	113.8	4778.0	10626.0
31013170350000	-79.21110	42.1945	39.9	1254.6	24.7	55.3	73.2	100.3	125.9	4208.0	9789.0
31013170380000	-79.21050	42.1891	39.1	1228.3	24.5	54.6	72.5	99.3	124.6	4255.0	9861.0
31013170390000	-79.21850	42.1872	39.7	1238.1	24.8	55.6	73.6	100.8	126.5	4197.0	9771.0
31013170460000	-79.58170	42.1652	36.7	1175.0	23.6	52.8	70.1	96.0	120.7	4445.0	10146.0
31013170530000	-79.64730	42.0445	41.4	1328.6	24.4	54.5	72.7	99.5	124.9	4182.0	9748.0
31013170630000	-79.09277	42.0140	43.0	1612.4	21.1	42.7	65.0	86.7	107.6	4161.0	9715.0
31013170630000	-79.09280	42.0140	43.0	1614.2	21.1	47.2	65.3	88.9	111.6	4560.0	10315.0
31013170640000	-79.06880	42.0703	48.5	1506.9	26.2	58.7	78.5	107.3	134.4	3754.0	9064.0
31013170700000	-79.66210	42.0481	41.8	1314.0	24.9	55.9	74.2	101.6	127.5	4110.0	9636.0
31013170760000	-79.54400	42.3177	23.9	840.9	17.7	39.6	54.0	74.3	94.1	5601.0	11717.0

31013170770000	-79.53000	42.3216	28.1	864.7	22.1	49.5	64.9	89.4	112.7	4952.0	10869.0
31013170780000	-79.53140	42.3371	20.3	784.3	14.4	30.9	44.7	61.4	78.0	6086.0	12299.0
31013170780000	-79.53140	42.3371	26.4	783.6	22.2	47.7	63.2	86.9	109.6	4972.0	10896.0
31013171100000	-79.72280	42.0144	41.3	1319.2	24.5	54.8	73.1	100.0	125.5	4181.0	9746.0
31013171110000	-79.69010	42.0569	42.9	1271.6	26.7	59.8	78.5	107.6	134.9	3887.0	9281.0
31013171120000	-79.69020	42.0628	40.2	1232.6	25.3	56.5	74.7	102.3	128.4	4118.0	9648.0
31013171190000	-79.11360	42.0669	46.8	1458.8	25.9	58.1	77.6	106.0	132.8	3837.0	9200.0
31013171200000	-79.67290	42.0563	43.4	1309.7	26.3	58.8	77.6	106.3	133.2	3911.0	9319.0
31013171210000	-79.66930	42.0444	43.2	1293.9	26.4	59.2	78.0	106.8	133.9	3900.0	9301.0
31013171220000	-79.66940	42.0498	43.6	1324.1	26.1	58.6	77.4	105.9	132.8	3930.0	9351.0
31013171230000	-79.67760	42.0734	38.7	1246.0	23.9	53.2	70.9	97.1	121.9	4336.0	9982.0
31013171240000	-79.67640	42.0677	44.3	1290.5	27.3	61.3	80.3	110.0	137.9	3776.0	9099.0
31013171260000	-79.12290	42.3228	37.7	1206.7	23.8	53.2	70.7	96.8	121.7	4390.0	10065.0
31013171270000	-79.66220	42.0661	40.7	1272.8	24.9	55.8	73.9	101.2	127.1	4148.0	9696.0
31013171300000	-79.67290	42.0625	41.8	1312.8	25.0	56.0	74.3	101.8	127.7	4118.0	9649.0
31013171310000	-79.66210	42.0768	39.9	1250.6	24.7	55.3	73.3	100.4	126.0	4204.0	9782.0
31013171330000	-79.64720	42.0703	39.7	1278.3	24.0	53.8	71.6	98.0	123.1	4291.0	9915.0
31013171430000	-79.65490	42.0722	37.8	1264.3	22.8	51.1	68.5	93.7	117.8	4496.0	10222.0
31013171490000	-79.07090	42.3389	33.0	1061.3	22.6	50.8	67.1	92.2	116.0	4698.0	10514.0
31013171530000	-79.12940	42.3117	36.3	1140.6	23.9	53.6	70.7	97.0	122.0	4425.0	10116.0
31013171540000	-79.07270	42.3453	32.1	1033.9	22.3	50.0	66.2	90.9	114.5	4762.0	10604.0
31013171730000	-79.06770	42.1866	41.5	1293.0	25.2	56.4	74.7	102.3	128.4	4101.0	9622.0
31013171740000	-79.08770	42.3179	33.7	1068.3	23.1	51.7	68.3	93.7	118.0	4617.0	10398.0
31013171770000	-79.15160	42.4175	32.0	1026.3	22.4	50.2	66.4	91.1	114.8	4758.0	10600.0
31013171780000	-79.16140	42.4301	31.6	994.3	22.7	50.9	67.0	92.0	115.9	4745.0	10581.0
31013171900000	-79.06670	42.1691	37.9	1225.0	23.6	52.7	70.2	96.1	120.7	4396.0	10073.0
31013171930000	-79.07970	42.1778	40.7	1274.7	24.9	55.8	73.9	101.3	127.1	4151.0	9700.0
31013172020000	-79.07320	42.1671	40.5	1257.9	25.1	56.3	74.3	101.8	127.8	4149.0	9697.0
31013172030000	-79.08670	42.1530	40.5	1258.5	25.1	56.2	74.3	101.8	127.7	4143.0	9688.0
31013172140000	-79.53760	42.3187	28.5	855.0	22.8	51.1	66.7	91.8	115.7	4854.0	10733.0
31013172170000	-79.09420	42.1541	40.4	1244.5	25.2	56.5	74.6	102.2	128.3	4133.0	9673.0
31013172180000	-79.08100	42.1561	40.2	1273.2	24.5	54.9	72.9	99.8	125.2	4221.0	9807.0
31013172190000	-79.06430	42.1718	40.2	1272.5	24.5	55.1	73.0	99.9	125.5	4235.0	9829.0
31013172190000	-79.06430	42.1718	39.0	1272.2	23.6	53.1	70.7	96.8	121.6	4373.0	10039.0
31013172230000	-79.66240	42.0144	43.3	1349.7	25.4	57.1	75.7	103.6	130.0	4010.0	9478.0

31013172490000	-79.07840	42.1615	40.7	1272.5	24.9	55.9	74.0	101.4	127.2	4156.0	9707.0
31013172530000	-79.53790	42.3383	25.1	770.8	20.8	46.5	61.3	84.5	106.7	5200.0	11202.0
31013172560000	-79.65460	42.0454	41.9	1324.4	24.8	55.7	74.0	101.3	127.2	4119.0	9650.0
31013172710000	-79.08710	42.3295	32.7	1038.8	22.8	51.0	67.4	92.5	116.5	4680.0	10487.0
31013172770000	-79.08060	42.1666	40.1	1220.1	25.5	56.7	74.9	102.6	128.7	4107.0	9631.0
31013172830000	-79.10910	42.2998	34.4	1082.0	23.5	52.6	69.3	95.1	119.7	4545.0	10293.0
31013172850000	-79.06220	42.1582	40.2	1276.8	24.5	54.8	72.8	99.6	125.1	4221.0	9808.0
31013172860000	-79.07900	42.1425	40.7	1268.0	25.0	55.7	73.9	101.2	127.0	4141.0	9684.0
31013176000000	-79.66790	42.0687	46.0	1250.3	29.6	65.2	85.2	116.6	146.0	3471.0	8582.0
31013176070000	-79.66880	42.0737	41.7	1403.0	23.3	52.8	70.7	96.7	121.4	4343.0	9994.0
31013176140000	-79.70620	42.0009	45.8	1416.1	26.0	58.3	77.5	106.0	132.8	3874.0	9260.0
31013176210000	-79.07110	42.1595	41.3	1271.6	25.4	56.8	75.1	102.8	129.0	4080.0	9589.0
31013176250000	-79.64820	42.0509	44.2	1374.0	25.6	57.4	76.3	104.4	130.9	3965.0	9407.0
31013176310000	-79.08560	42.1476	41.7	1259.1	25.9	58.1	76.5	104.8	131.5	4006.0	9472.0
31013176450000	-79.11760	42.0456	47.5	1472.8	26.2	58.6	78.3	106.9	134.0	3785.0	9114.0
31013176460000	-79.13760	42.3289	38.7	1199.1	24.8	55.5	73.2	100.3	126.0	4244.0	9843.0
31013176480000	-79.68900	42.1171	38.3	1208.4	24.2	54.2	71.8	98.4	123.6	4318.0	9956.0
31013176510000	-79.75900	42.0189	40.2	1230.5	25.4	56.9	74.9	102.7	128.9	4132.0	9671.0
31013176530000	-79.07110	42.0595	47.8	1401.2	27.7	62.0	81.9	112.0	140.2	3613.0	8826.0
31013176540000	-79.68400	42.1064	37.5	1233.8	23.1	51.7	69.0	94.5	118.8	4481.0	10200.0
31013176610000	-79.43030	42.1154	39.2	1237.2	24.4	54.6	72.4	99.2	124.6	4265.0	9876.0
31013176640000	-79.08680	42.1573	38.6	1235.4	24.0	53.5	71.2	97.5	122.4	4331.0	9976.0
31013176660000	-79.62290	42.0336	38.8	1298.5	23.0	51.4	69.0	94.4	118.7	4444.0	10145.0
31013176670000	-79.65580	42.0508	42.4	1315.5	25.4	56.7	75.2	103.0	129.2	4042.0	9529.0
31013176750000	-79.68770	42.0776	40.2	1232.9	25.3	56.8	74.8	102.5	128.7	4125.0	9659.0
31013176840000	-79.64900	42.0149	43.6	1327.4	26.1	58.5	77.3	105.8	132.7	3933.0	9355.0
31013176850000	-79.06920	42.1423	41.5	1335.9	24.3	54.5	72.7	99.5	124.9	4194.0	9766.0
31013176860000	-79.06250	42.1442	41.5	1333.5	24.3	54.5	72.8	99.6	125.0	4189.0	9760.0
31013176880000	-79.18760	42.1827	41.5	1291.7	25.2	56.3	74.7	102.2	128.3	4094.0	9611.0
31013176890000	-79.19260	42.1759	41.0	1293.6	24.7	55.4	73.6	100.7	126.4	4164.0	9720.0
31013176900000	-79.18550	42.1770	41.5	1291.4	25.2	56.3	74.6	102.2	128.2	4092.0	9608.0
31013176940000	-79.10840	42.3053	34.5	1092.4	23.4	52.3	69.1	94.8	119.3	4550.0	10300.0
31013176990000	-79.10710	42.0643	48.1	1427.7	27.4	61.3	81.2	111.1	139.1	3633.0	8861.0
31013177000000	-79.65740	42.0553	37.4	1317.4	21.5	48.3	65.4	89.5	112.5	4671.0	10476.0
31013177010000	-79.72543	42.0306	44.5	1268.0	28.0	55.9	80.4	108.5	135.0	3125.0	7962.0

31013177010000	-79.72540	42.0306	44.6	1270.1	28.0	62.8	82.0	112.3	140.8	3699.0	8971.0
31013177030000	-79.65630	42.0662	40.9	1284.1	24.8	55.6	73.7	101.0	126.7	4157.0	9710.0
31013177090000	-79.75940	42.0078	39.4	1302.7	23.4	52.5	70.1	96.0	120.6	4390.0	10065.0
31013177100000	-79.74560	42.0076	42.8	1302.7	25.9	58.0	76.7	105.0	131.7	3971.0	9416.0
31013177110000	-79.74510	42.0007	43.2	1343.6	25.5	57.2	75.8	103.8	130.2	4003.0	9468.0
31013177120000	-79.75240	42.0009	43.1	1327.4	25.7	57.5	76.1	104.2	130.7	3987.0	9443.0
31013177180000	-79.27180	42.2052	22.6	751.3	18.0	38.8	53.3	73.3	92.8	5583.0	11693.0
31013177210000	-79.08330	42.0800	49.7	1417.9	28.7	64.2	84.6	115.7	144.8	3460.0	8563.0
31013177220000	-79.75940	42.0023	40.6	1310.9	24.1	54.1	72.1	98.7	123.9	4247.0	9848.0
31013177270000	-79.12010	42.0212	42.8	1500.2	22.6	50.5	68.8	93.9	117.8	4359.0	10018.0
31013177280000	-79.70730	42.0128	43.9	1354.5	25.8	57.8	76.7	104.9	131.6	3947.0	9377.0
31013177330000	-79.19510	42.2254	42.2	1305.8	25.5	56.8	75.4	103.2	129.4	4033.0	9514.0
31013177340000	-79.19510	42.2199	42.3	1308.2	25.4	57.0	75.5	103.3	129.6	4043.0	9531.0
31013177450000	-79.68320	42.0400	42.6	1247.9	27.0	60.3	79.0	108.3	135.8	3865.0	9245.0
31013177470000	-79.24140	42.2814	36.1	1129.0	24.0	53.8	71.0	97.3	122.3	4418.0	10106.0
31013177480000	-79.68560	42.0980	39.0	1223.2	24.5	54.9	72.6	99.5	125.0	4255.0	9860.0
31013177490000	-79.18970	42.3979	30.1	969.9	21.8	49.0	64.7	89.0	112.2	4918.0	10822.0
31013177520000	-79.53040	42.0706	43.6	1375.9	25.2	56.4	75.2	102.8	128.9	4024.0	9500.0
31013177530000	-79.24810	42.2694	35.4	1118.0	23.6	52.9	69.9	95.8	120.5	4485.0	10206.0
31013177580000	-79.69820	42.0628	42.3	1242.1	26.8	60.1	78.7	107.9	135.3	3904.0	9308.0
31013177630000	-79.55450	42.0613	41.8	1332.0	24.7	55.6	73.7	100.9	126.7	4171.0	9731.0
31013177720000	-79.53040	42.0799	43.9	1350.0	25.8	58.2	76.9	105.2	132.0	3963.0	9404.0
31013177730000	-79.61770	42.0406	41.3	1320.4	24.5	55.3	73.2	100.3	125.9	4217.0	9803.0
31013177740000	-79.62500	42.0790	42.3	1313.1	25.4	56.9	75.4	103.2	129.4	4044.0	9532.0
31013177900000	-79.59460	42.1865	37.1	1162.5	24.2	54.1	71.5	98.0	123.2	4363.0	10023.0
31013177960000	-79.57710	42.1604	37.3	1175.9	24.1	54.0	71.3	97.8	122.9	4378.0	10047.0
31013177970000	-79.55230	42.0701	44.1	1371.3	25.6	57.9	76.5	104.8	131.4	3997.0	9458.0
31013177980000	-79.69630	42.0190	40.9	1291.1	24.7	55.4	73.6	100.7	126.4	4160.0	9714.0
31013177990000	-79.61260	42.0595	44.2	1377.7	25.6	57.3	76.2	104.2	130.7	3966.0	9409.0
31013178000000	-79.07320	42.1539	40.6	1309.7	24.1	54.2	72.2	98.8	124.0	4249.0	9851.0
31013178010000	-79.08090	42.1346	41.6	1300.0	25.1	56.2	74.6	102.1	128.1	4104.0	9626.0
31013178020000	-79.06570	42.2094	40.2	1187.5	26.3	58.9	77.0	105.6	132.5	4023.0	9500.0
31013178040000	-79.19860	42.2881	37.2	1172.9	24.1	54.4	71.6	98.2	123.4	4403.0	10084.0
31013178150000	-79.10200	42.1497	38.6	1235.4	24.0	53.6	71.2	97.6	122.6	4334.0	9980.0
31013178160000	-79.50420	42.1229	43.2	1244.8	27.4	61.5	80.3	110.1	138.1	3805.0	9146.0

31013178180000	-79.69630	42.0473	43.9	1257.9	27.7	62.1	81.1	111.2	139.4	3748.0	9053.0
31013178230000	-79.55100	42.1692	39.1	1228.3	24.5	54.9	72.6	99.5	124.9	4262.0	9871.0
31013178260000	-79.71470	42.0553	38.8	1210.1	24.7	55.2	73.0	100.0	125.6	4248.0	9850.0
31013178270000	-79.10710	42.0523	49.1	1516.7	26.5	59.3	79.3	108.3	135.6	3704.0	8979.0
31013178400000	-79.56290	42.1607	39.6	1184.2	25.9	58.0	75.9	104.1	130.7	4096.0	9614.0
31013178420000	-79.52736	42.0570	42.2	1346.3	24.6	50.5	72.9	98.3	122.5	3665.0	8914.0
31013178420000	-79.52740	42.0570	42.2	1353.3	24.6	55.1	73.5	100.5	126.1	4138.0	9680.0
31013178440000	-79.70680	42.0875	40.4	1246.0	25.2	56.5	74.6	102.2	128.3	4138.0	9680.0
31013178450000	-79.72800	42.1922	33.7	1071.1	23.1	51.6	68.2	93.7	117.9	4618.0	10400.0
31013178460000	-79.74410	42.1814	34.7	1102.8	23.3	52.2	69.0	94.6	119.0	4558.0	10312.0
31013178470000	-79.74800	42.1973	33.2	1075.9	22.5	50.4	66.9	91.7	115.5	4701.0	10519.0
31013178490000	-79.19640	42.1878	40.8	1277.4	24.9	55.7	73.9	101.2	127.0	4153.0	9703.0
31013178500000	-79.18790	42.1926	41.6	1300.9	25.1	56.2	74.5	102.0	128.0	4101.0	9622.0
31013178530000	-79.67450	42.0007	41.6	1303.3	25.1	56.0	74.4	101.8	127.7	4098.0	9618.0
31013178610000	-79.52450	42.0456	43.6	1328.0	26.1	58.1	77.0	105.4	132.1	3916.0	9328.0
31013178660000	-79.43890	42.0742	42.5	1324.7	25.3	56.8	75.2	103.0	129.2	4067.0	9568.0
31013178680000	-79.54926	42.0846	32.2	934.5	24.9	48.1	69.7	94.0	117.1	3809.0	9153.0
31013178680000	-79.54930	42.0846	32.3	937.3	24.8	54.0	70.8	97.2	122.2	4452.0	10157.0
31013178680000	-79.54930	42.0846	28.5	930.3	20.9	45.3	61.1	83.8	105.7	5043.0	10992.0
31013178690000	-79.70610	42.0479	39.9	1249.1	24.7	55.4	73.3	100.5	126.1	4205.0	9783.0
31013178700000	-79.61290	42.0414	41.8	1318.6	24.9	55.9	74.2	101.5	127.4	4118.0	9649.0
31013178760000	-79.67603	42.0522	41.7	1310.6	25.0	50.5	73.1	98.5	122.7	3621.0	8840.0
31013178760000	-79.67600	42.0522	41.8	1316.1	24.9	55.9	74.2	101.6	127.5	4117.0	9647.0
31013178770000	-79.60380	42.0773	43.2	1339.6	25.5	57.2	75.9	103.9	130.3	3998.0	9459.0
31013178840000	-79.71330	42.0732	39.0	1222.3	24.5	55.1	72.8	99.7	125.3	4267.0	9878.0
31013178870000	-79.56340	42.1710	38.8	1208.8	24.7	55.3	73.0	100.1	125.7	4253.0	9857.0
31013178940000	-79.21590	42.3064	38.0	1188.7	24.4	54.7	72.2	99.0	124.4	4309.0	9943.0
31013178950000	-79.21050	42.2954	38.7	1199.7	24.8	55.5	73.2	100.3	126.0	4242.0	9840.0
31013178960000	-79.46350	42.1689	33.9	1168.3	21.3	47.6	64.1	87.8	110.6	4824.0	10692.0
31013178980000	-79.51010	42.1156	40.3	1240.5	25.3	56.2	74.4	101.9	127.9	4120.0	9652.0
31013178990000	-79.57270	42.1707	38.1	1199.1	24.3	54.5	72.0	98.7	124.0	4316.0	9952.0
31013179030000	-79.45920	42.1654	34.6	1182.3	21.6	48.5	65.1	89.3	112.3	4755.0	10594.0
31013179040000	-79.46380	42.1741	36.4	1153.1	23.8	53.3	70.5	96.7	121.5	4432.0	10128.0
31013179100000	-79.52220	42.0913	22.3	927.5	14.3	30.9	45.0	61.6	78.2	6057.0	12265.0
31013179190000	-79.57390	42.1648	38.0	1191.2	24.4	54.8	72.2	99.0	124.4	4319.0	9957.0

31013179210000	-79.27470	42.2553	34.6	1096.1	23.3	52.2	69.0	94.7	119.1	4552.0	10303.0
31013179220000	-79.27820	42.2513	33.2	1077.8	22.5	50.3	66.8	91.6	115.3	4700.0	10517.0
31013179240000	-79.21370	42.2270	41.4	1282.6	25.3	56.6	74.9	102.5	128.6	4088.0	9602.0
31013179300000	-79.72400	42.0699	38.8	1208.5	24.7	55.3	73.0	100.1	125.7	4249.0	9850.0
31013179320000	-79.23010	42.0680	38.9	1329.5	22.5	50.4	67.9	92.9	116.7	4497.0	10222.0
31013179350000	-79.29160	42.2111	35.9	1113.1	24.2	54.4	71.4	98.0	123.2	4423.0	10113.0
31013179420000	-79.12140	42.1645	40.0	1305.5	23.8	53.2	71.1	97.3	122.1	4307.0	9940.0
31013179430000	-79.12570	42.1691	40.1	1311.6	23.7	53.1	71.0	97.1	122.0	4312.0	9947.0
31013179440000	-79.29160	42.2064	36.0	1123.2	24.1	54.3	71.3	97.8	123.0	4439.0	10137.0
31013179450000	-79.71880	42.0441	38.9	1218.9	24.6	55.0	72.8	99.7	125.2	4254.0	9858.0
31013179460000	-79.71227	42.0665	42.4	1182.6	28.2	55.3	79.5	107.2	133.4	3165.0	8036.0
31013179460000	-79.71230	42.0665	42.5	1193.0	28.1	62.9	81.7	112.0	140.4	3761.0	9075.0
31013179540000	-79.11520	42.1540	35.2	1273.8	20.6	46.0	62.6	85.7	107.9	4872.0	10758.0
31013179570000	-79.08750	42.1315	38.9	1262.5	23.7	53.1	70.7	96.9	121.7	4350.0	10005.0
31013179580000	-79.11970	42.1718	37.4	1322.2	21.5	48.2	65.3	89.4	112.4	4676.0	10482.0
31013179620000	-79.31180	42.1922	36.7	1221.3	22.7	51.7	68.5	93.9	118.1	4606.0	10382.0
31013179800000	-79.29770	42.1829	40.8	1275.6	24.9	55.8	73.9	101.2	127.1	4152.0	9702.0
31013179810000	-79.30560	42.1829	40.7	1274.1	24.9	55.9	74.0	101.4	127.2	4160.0	9714.0
31013179850000	-79.64180	42.1164	38.2	1201.5	24.3	54.3	71.9	98.6	123.8	4313.0	9949.0
31013179860000	-79.53420	42.3683	20.7	702.9	16.7	37.4	51.2	70.6	89.6	5805.0	11966.0
31013180020000	-79.09270	42.1211	37.0	1288.4	21.8	42.5	63.9	85.5	106.4	4230.0	9822.0
31013180020000	-79.09270	42.1211	38.7	1288.4	23.0	51.6	69.2	94.7	118.9	4438.0	10135.0
31013180080000	-79.31970	42.1861	37.2	1258.5	22.4	50.5	67.6	92.6	116.4	4590.0	10359.0
31013180110000	-79.19980	42.3126	39.1	1187.5	25.3	56.6	74.5	102.2	128.3	4159.0	9713.0
31013180180000	-79.58400	42.0293	37.0	1286.3	21.8	48.8	65.9	90.1	113.4	4656.0	10454.0
31013180220000	-79.74430	42.1665	34.8	1113.1	23.2	52.0	68.8	94.4	118.7	4566.0	10323.0
31013180240000	-79.29790	42.1564	38.6	1281.1	23.1	51.8	69.3	94.9	119.2	4435.0	10131.0
31013180250000	-79.33630	42.1681	38.7	1287.2	23.1	52.5	69.6	95.4	120.0	4505.0	10235.0
31013180260000	-79.31530	42.1751	38.1	1282.0	22.7	50.8	68.2	93.3	117.3	4508.0	10238.0
31013180310000	-79.17090	42.2181	44.1	1324.7	26.5	59.4	78.4	107.3	134.6	3860.0	9237.0
31013180370000	-79.67550	42.1209	38.2	1206.4	24.2	54.3	71.9	98.5	123.7	4317.0	9955.0
31013180380000	-79.63270	42.1169	38.7	1198.5	24.8	55.3	73.1	100.2	125.8	4237.0	9832.0
31013180390000	-79.62220	42.1099	38.2	1204.0	24.3	54.2	71.8	98.4	123.6	4312.0	9948.0
31013180400000	-79.60680	42.2114	36.2	1132.0	24.0	53.9	71.0	97.4	122.4	4430.0	10125.0
31013180410000	-79.09940	42.1718	37.4	1232.3	23.1	51.5	68.9	94.3	118.5	4473.0	10188.0

31013180420000	-79.10570	42.1703	37.6	1294.2	22.1	49.7	66.9	91.5	115.1	4590.0	10359.0
31013180470000	-79.55210	42.0948	42.4	1318.0	25.3	56.9	75.4	103.2	129.4	4063.0	9562.0
31013180540000	-79.61510	42.1208	37.8	1175.6	24.5	54.8	72.4	99.2	124.7	4296.0	9922.0
31013180550000	-79.25520	42.2961	35.6	1131.4	23.5	52.7	69.7	95.6	120.2	4496.0	10222.0
31013180560000	-79.56780	42.0294	36.7	1305.5	21.2	47.4	64.4	88.1	110.8	4737.0	10568.0
31013180610000	-79.60750	42.1156	38.8	1207.3	24.7	55.3	73.0	100.1	125.7	4248.0	9850.0
31013180630000	-79.66170	42.1143	39.0	1222.3	24.5	55.0	72.7	99.6	125.1	4257.0	9864.0
31013180650000	-79.67010	42.1105	38.9	1215.5	24.6	55.1	72.8	99.8	125.3	4251.0	9855.0
31013180860000	-79.12200	42.1544	37.4	1272.2	22.3	49.9	67.1	91.9	115.5	4572.0	10332.0
31013180960000	-79.13430	42.1968	38.0	1281.4	22.7	50.8	68.2	93.3	117.3	4506.0	10236.0
31013180970000	-79.23710	42.2395	39.0	1222.3	24.5	55.8	73.1	100.3	126.1	4322.0	9962.0
31013181030000	-79.18960	42.2847	37.4	1183.2	24.0	53.7	71.1	97.5	122.5	4376.0	10043.0
31013181060000	-79.22460	42.2454	29.2	941.2	21.4	47.7	63.3	87.0	109.7	4974.0	10899.0
31013181070000	-79.22460	42.2497	39.9	1252.7	24.7	56.1	73.6	101.0	126.8	4269.0	9882.0
31013181100000	-79.16030	42.2144	39.1	1320.1	22.8	51.1	68.7	93.9	118.0	4458.0	10166.0
31013181160000	-79.19110	42.2155	41.6	1297.8	25.1	56.3	74.6	102.1	128.1	4100.0	9620.0
31013181210000	-79.08240	42.1279	37.3	1266.1	22.4	49.9	67.2	91.9	115.6	4566.0	10324.0
31013181220000	-79.10580	42.1820	38.1	1289.3	22.6	50.7	68.1	93.2	117.1	4513.0	10246.0
31013181230000	-79.65650	42.1399	38.7	1200.9	24.7	55.4	73.2	100.3	125.9	4243.0	9842.0
31013181280000	-79.07510	42.1817	36.4	1283.5	21.4	47.9	64.8	88.7	111.6	4730.0	10559.0
31013181290000	-79.06810	42.1819	38.9	1258.5	23.7	53.1	70.8	96.9	121.7	4347.0	9999.0
31013181300000	-79.06250	42.1794	41.0	1248.2	25.6	57.4	75.6	103.6	130.0	4066.0	9566.0
31013181310000	-79.74520	42.0736	38.1	1195.1	24.3	54.5	72.0	98.7	124.0	4309.0	9942.0
31013181320000	-79.32750	42.1933	36.2	1265.8	21.5	49.8	65.9	90.6	114.1	4853.0	10731.0
31013181320000	-79.32750	42.1933	38.6	1236.9	23.9	55.4	72.1	99.1	124.6	4483.0	10202.0
31013181450000	-79.75960	42.1754	44.5	1132.6	31.4	70.0	89.5	122.8	153.8	3398.0	8455.0
31013181450000	-79.75960	42.1754	35.6	1132.6	23.5	52.5	69.5	95.4	119.9	4493.0	10217.0
31013181470000	-79.54420	42.1643	39.1	1234.4	24.4	54.7	72.5	99.3	124.7	4267.0	9879.0
31013181540000	-79.35230	42.1825	37.6	1249.1	22.9	51.7	68.9	94.4	118.6	4509.0	10240.0
31013181550000	-79.33100	42.1821	39.9	1296.3	23.8	52.5	70.6	96.5	121.2	4280.0	9898.0
31013181580000	-79.15600	42.2036	38.3	1258.2	23.3	52.2	69.7	95.4	119.9	4419.0	10108.0
31013181590000	-79.15020	42.1982	41.2	1268.0	25.4	56.9	75.2	103.0	129.2	4079.0	9587.0
31013181610000	-79.60860	42.0661	39.1	1318.3	22.8	51.0	68.6	93.9	117.9	4454.0	10159.0
31013181620000	-79.06780	42.1480	40.7	1312.8	24.1	54.0	72.0	98.6	123.7	4242.0	9840.0
31013181740000	-79.22480	42.2590	39.0	1221.3	24.5	54.9	72.7	99.6	125.1	4254.0	9858.0

31013181760000	-79.24210	42.2420	24.8	867.8	18.2	39.4	54.2	74.4	94.2	5499.0	11588.0
31013181760000	-79.24210	42.2420	29.2	866.9	23.3	50.5	66.6	91.4	115.2	4735.0	10566.0
31013181810000	-79.15650	42.1822	38.8	1298.1	23.0	51.2	68.9	94.2	118.3	4439.0	10137.0
31013181880000	-79.48930	42.1601	38.0	1186.9	24.4	54.7	72.3	99.1	124.5	4308.0	9941.0
31013181920000	-79.08240	42.3660	35.9	1027.8	26.2	58.7	75.9	104.3	131.0	4202.0	9780.0
31013181940000	-79.10670	42.1768	38.0	1274.4	22.7	50.8	68.2	93.3	117.3	4498.0	10225.0
31013181950000	-79.16030	42.2198	38.2	1336.6	21.8	48.9	66.2	90.6	113.8	4611.0	10389.0
31013181960000	-79.16520	42.2108	39.1	1277.1	23.6	52.7	70.5	96.4	121.1	4359.0	10017.0
31013181970000	-79.17150	42.2129	38.1	1283.2	22.7	50.5	68.0	93.0	116.9	4502.0	10230.0
31013181980000	-79.17140	42.2076	37.9	1270.1	22.8	50.9	68.3	93.5	117.5	4497.0	10223.0
31013181990000	-79.19450	42.1251	42.3	1240.5	26.8	60.1	78.7	107.8	135.2	3894.0	9292.0
31013182050000	-79.24030	42.3198	35.5	1123.2	23.6	52.9	69.9	95.8	120.5	4495.0	10220.0
31013182260000	-79.21260	42.2582	39.5	1261.3	24.2	54.1	72.0	98.5	123.7	4282.0	9902.0
31013182270000	-79.24010	42.3280	35.6	1130.2	23.5	52.7	69.7	95.6	120.2	4495.0	10220.0
31013182280000	-79.26830	42.3197	35.6	1130.2	23.5	52.8	69.8	95.7	120.3	4503.0	10231.0
31013182330000	-79.22240	42.3218	36.3	1141.2	23.9	53.6	70.8	97.0	122.0	4428.0	10121.0
31013182340000	-79.23240	42.3344	38.1	1193.6	24.4	54.6	72.2	98.9	124.3	4316.0	9953.0
31013182350000	-79.07180	42.1274	42.6	1339.3	25.1	56.4	74.9	102.5	128.6	4070.0	9574.0
31013182360000	-79.06390	42.1968	40.4	1246.6	25.2	56.4	74.5	102.1	128.2	4134.0	9673.0
31013182370000	-79.07190	42.1970	37.7	1254.9	22.9	51.3	68.6	94.0	118.1	4492.0	10216.0
31013182380000	-79.07090	42.2018	40.2	1227.1	25.4	56.8	74.9	102.7	128.9	4119.0	9650.0
31013182390000	-79.25570	42.2424	33.9	1130.2	22.1	49.5	66.0	90.5	114.0	4736.0	10568.0
31013182400000	-79.27410	42.3155	35.1	1095.5	23.9	53.5	70.4	96.6	121.5	4476.0	10192.0
31013182420000	-79.14680	42.1856	41.8	1315.5	24.9	55.9	74.2	101.6	127.5	4112.0	9639.0
31013182430000	-79.15990	42.1915	37.1	1291.1	21.7	48.7	65.8	90.0	113.2	4657.0	10455.0
31013182440000	-79.15990	42.1865	37.4	1316.7	21.5	48.3	65.4	89.5	112.5	4673.0	10477.0
31013182450000	-79.14400	42.2113	36.6	1299.1	21.2	47.6	64.6	88.3	111.1	4737.0	10569.0
31013182460000	-79.13920	42.2077	42.2	1258.8	26.4	58.9	77.6	106.2	133.2	3935.0	9359.0
31013182560000	-79.66190	42.0905	39.1	1232.0	24.4	54.7	72.5	99.3	124.7	4262.0	9871.0
31013182570000	-79.45760	42.1763	33.0	1142.1	21.0	47.0	63.3	86.8	109.3	4894.0	10789.0
31013182580000	-79.56340	42.0143	39.0	1362.5	22.0	49.4	66.9	91.5	114.9	4555.0	10307.0
31013182590000	-79.45120	42.1760	36.2	1132.3	24.0	53.6	70.8	97.1	122.1	4417.0	10105.0
31013182600000	-79.06630	42.1538	40.0	1308.5	23.7	53.2	71.1	97.3	122.2	4314.0	9951.0
31013182880000	-79.41460	42.1980	34.3	1115.0	22.7	50.9	67.5	92.6	116.5	4648.0	10442.0
31013182890000	-79.43100	42.2224	31.4	1104.6	20.2	45.4	61.3	84.0	105.9	5040.0	10989.0

31013182910000	-79.34530	42.1854	36.2	1265.8	21.5	47.0	64.2	87.7	110.3	4697.0	10513.0
31013182920000	-79.23690	42.2648	34.9	1159.5	22.3	49.9	66.7	91.4	114.9	4663.0	10464.0
31013182930000	-79.11760	42.1495	39.8	1285.0	23.9	53.7	71.5	97.9	123.0	4300.0	9928.0
31013182940000	-79.27940	42.2457	36.7	1086.0	25.5	57.1	74.4	102.2	128.4	4240.0	9837.0
31013183150000	-79.29510	42.2300	35.5	1078.4	24.5	55.0	72.0	98.8	124.3	4387.0	10060.0
31013183170000	-79.41560	42.2030	34.9	1116.8	23.2	51.9	68.7	94.2	118.5	4564.0	10321.0
31013183310000	-79.40100	42.2237	34.8	1159.2	22.3	49.5	66.4	91.0	114.4	4656.0	10454.0
31013183320000	-79.29290	42.2393	29.8	1074.1	19.4	43.5	59.0	81.0	102.2	5196.0	11197.0
31013183400000	-79.53080	42.1749	38.4	1220.4	24.1	54.1	71.6	98.2	123.3	4335.0	9982.0
31013183470000	-79.14540	42.0585	44.1	1368.9	25.6	57.5	76.4	104.5	131.0	3954.0	9389.0
31013183550000	-79.15830	42.1612	43.1	1310.6	26.0	58.3	77.1	105.5	132.3	3944.0	9373.0
31013183600000	-79.41390	42.2260	34.8	1152.8	22.4	50.2	66.9	91.7	115.4	4671.0	10476.0
31013183610000	-79.67140	42.2962	22.7	757.7	18.0	40.4	54.6	75.2	95.3	5600.0	11715.0
31013183650000	-79.57680	42.0183	43.8	1346.0	25.9	58.1	76.9	105.2	132.0	3946.0	9376.0
31013183710000	-79.51030	42.2520	32.9	1053.4	22.7	50.9	67.3	92.4	116.3	4693.0	10506.0
31013183770000	-79.45420	42.1176	38.9	1256.7	23.8	53.4	71.0	97.2	122.1	4362.0	10022.0
31013183990000	-79.47470	42.1266	39.1	1279.6	23.6	52.7	70.4	96.4	121.1	4361.0	10021.0
31013184000000	-79.57140	42.1610	36.7	1129.3	24.5	54.5	71.9	98.6	123.9	4333.0	9978.0
31013184010000	-79.25480	42.2135	23.9	805.9	18.5	39.7	54.6	74.9	94.8	5474.0	11556.0
31013184050000	-79.72330	42.2067	34.3	1031.1	24.5	54.9	71.7	98.5	123.9	4437.0	10135.0
31013184050000	-79.72330	42.2067	32.0	1025.0	22.4	50.1	66.3	91.1	114.7	4757.0	10597.0
31013184150000	-79.14210	42.0140	47.7	1411.2	27.4	61.4	81.2	111.1	139.1	3644.0	8880.0
31013184160000	-79.61780	42.0090	41.6	1298.8	25.1	56.4	74.6	102.2	128.2	4111.0	9639.0
31013184170000	-79.59860	42.0006	44.2	1380.1	25.5	57.3	76.2	104.2	130.6	3970.0	9414.0
31013184180000	-79.42560	42.1467	36.4	1197.3	22.9	50.2	67.6	92.5	116.2	4509.0	10240.0
31013184200000	-79.64120	42.0754	40.6	1264.3	25.0	56.0	74.1	101.5	127.4	4142.0	9687.0
31013184270000	-79.10960	42.3280	35.6	1130.8	23.5	52.5	69.5	95.3	119.9	4490.0	10213.0
31013184280000	-79.61040	42.1014	39.8	1243.0	24.8	55.5	73.5	100.6	126.3	4199.0	9775.0
31013184310000	-79.40510	42.1878	36.6	1168.0	23.7	53.0	70.2	96.3	121.0	4443.0	10143.0
31013184320000	-79.44250	42.1280	26.5	911.1	19.2	41.4	56.7	77.8	98.2	5312.0	11348.0
31013184330000	-79.10780	42.2892	35.6	1130.8	23.5	52.7	69.7	95.6	120.2	4497.0	10222.0
31013184480000	-79.15428	42.0795	43.7	1309.4	26.5	51.4	76.0	102.0	126.7	3296.0	8274.0
31013184480000	-79.15430	42.0795	43.7	1309.4	26.5	59.3	78.2	107.1	134.2	3880.0	9269.0
31013184490000	-79.34515	42.1930	37.8	1257.9	22.9	46.6	67.4	90.9	113.5	4080.0	9589.0
31013184490000	-79.34520	42.1930	37.8	1263.7	22.8	51.1	68.5	93.8	117.9	4498.0	10225.0

31013184510000	-79.06650	42.1089	39.2	1334.1	22.7	50.7	68.4	93.5	117.5	4463.0	10173.0
31013184520000	-79.71950	42.0743	38.6	1189.9	24.9	55.5	73.3	100.4	126.1	4232.0	9824.0
31013184570000	-79.56580	42.1915	37.8	1171.0	24.6	55.1	72.6	99.5	125.0	4296.0	9922.0
31013184810000	-79.57480	42.0595	41.5	1290.5	25.2	56.6	74.8	102.5	128.6	4108.0	9633.0
31013184890000	-79.64170	42.0492	48.4	1359.4	29.0	65.0	85.1	116.5	145.9	3473.0	8587.0
31013184900000	-79.14650	42.3122	36.4	1148.5	23.8	53.4	70.6	96.8	121.7	4430.0	10124.0
31013185000000	-79.71490	42.0310	40.0	1259.1	24.6	55.2	73.1	100.1	125.7	4209.0	9790.0
31013185010000	-79.64730	42.0368	41.9	1321.0	24.9	55.8	74.1	101.5	127.3	4121.0	9654.0
31013185040000	-79.13750	42.3159	37.1	1120.1	25.1	56.1	73.6	100.9	126.8	4259.0	9867.0
31013185050000	-79.52410	42.1163	41.2	1265.8	25.4	56.7	75.1	102.8	128.9	4070.0	9573.0
31013185080000	-79.07790	42.2915	34.6	1096.1	23.3	52.5	69.2	94.9	119.4	4565.0	10322.0
31013185110000	-79.64760	42.0248	47.1	1296.6	29.4	66.1	85.8	117.6	147.3	3499.0	8630.0
31013185120000	-79.61810	42.0614	42.5	1328.0	25.2	56.5	75.0	102.7	128.8	4052.0	9546.0
31013185230000	-79.44520	42.1643	35.3	1191.2	22.0	49.4	66.2	90.7	114.1	4683.0	10492.0
31013185240000	-79.45160	42.1636	35.4	1203.2	22.0	49.2	66.0	90.5	113.8	4690.0	10503.0
31013185250000	-79.60560	42.2704	32.8	1041.8	22.8	51.1	67.5	92.7	116.7	4687.0	10499.0
31013185310000	-79.69930	42.0751	38.2	1203.4	24.3	54.2	71.8	98.4	123.7	4313.0	9948.0
31013185320000	-79.49970	42.0940	31.0	997.6	22.1	47.5	64.4	88.1	110.8	4698.0	10514.0
31013185330000	-79.50270	42.1010	33.0	977.2	24.6	52.8	70.0	95.9	120.5	4424.0	10115.0
31013185340000	-79.49970	42.0984	31.0	997.0	22.1	47.4	64.1	87.8	110.4	4748.0	10585.0
31013185370000	-79.24219	42.1915	37.5	1192.7	23.9	47.9	69.2	93.4	116.5	3922.0	9338.0
31013185370000	-79.24220	42.1915	37.5	1193.6	23.9	53.5	70.9	97.2	122.1	4382.0	10053.0
31013185410000	-79.57740	42.0454	41.6	1296.6	25.1	56.9	74.9	102.6	128.8	4149.0	9698.0
31013185420000	-79.57430	42.0487	43.2	1292.1	26.5	59.3	78.1	106.9	134.0	3900.0	9301.0
31013185440000	-79.24915	42.2344	31.0	990.6	22.2	42.2	62.1	83.5	104.3	4403.0	10083.0
31013185440000	-79.24920	42.2344	31.0	993.7	22.1	49.0	65.1	89.4	112.6	4816.0	10681.0
31013185470000	-79.55390	42.2074	35.9	1153.7	23.3	52.2	69.2	94.9	119.3	4507.0	10238.0
31013185510000	-79.24890	42.2990	33.9	1090.0	22.9	51.2	67.9	93.1	117.2	4627.0	10413.0
31013185630000	-79.52410	42.0405	44.1	1372.8	25.6	57.4	76.3	104.3	130.8	3956.0	9392.0
31013185750000	-79.62340	42.0404	32.3	1050.7	22.2	47.7	64.6	88.4	111.1	4713.0	10536.0
31013185760000	-79.43470	42.1448	26.0	873.9	19.5	41.8	57.1	78.3	98.9	5287.0	11316.0
31013185840000	-79.13880	42.3841	34.3	1074.7	23.5	52.8	69.5	95.4	120.0	4543.0	10291.0
31013185870000	-79.23989	42.1957	32.4	1227.7	19.0	38.5	57.2	76.9	96.2	4900.0	10796.0
31013185870000	-79.23990	42.1957	32.4	1227.4	19.1	42.8	58.7	80.4	101.4	5173.0	11166.0
31013185940000	-79.40220	42.1924	35.0	1170.7	22.2	49.4	66.3	90.8	114.2	4664.0	10465.0

31013186040000	-79.23530	42.2470	30.0	963.5	21.8	48.2	64.1	88.0	110.9	4888.0	10780.0
31013186090000	-79.15670	42.1473	37.1	1341.7	21.0	47.1	64.0	87.6	110.1	4764.0	10607.0
31013186100000	-79.30710	42.1916	36.8	1224.4	22.7	50.7	67.9	93.0	116.9	4545.0	10293.0
31013186120000	-79.10960	42.1500	36.6	1257.0	22.0	49.2	66.3	90.7	114.1	4639.0	10429.0
31013186250000	-79.08770	42.3506	32.1	1035.7	22.3	50.0	66.2	90.9	114.5	4764.0	10607.0
31013186330000	-79.56310	42.0615	42.0	1332.0	24.8	55.5	73.9	101.1	126.8	4121.0	9654.0
31013186360000	-79.11770	42.3693	31.7	1004.9	22.6	50.5	66.7	91.6	115.3	4746.0	10582.0
31013186380000	-79.21610	42.2533	38.8	1295.1	23.0	51.6	69.1	94.6	118.9	4453.0	10157.0
31013186390000	-79.23340	42.2591	27.7	874.5	21.4	45.9	62.0	85.0	107.1	4944.0	10858.0
31013186400000	-79.29180	42.1972	35.3	1193.9	22.0	50.5	66.8	91.7	115.5	4774.0	10621.0
31013186550000	-79.23100	42.2527	36.1	1216.8	22.3	50.3	67.1	92.0	115.7	4641.0	10433.0
31013186610000	-79.21070	42.2622	37.7	1255.8	22.9	51.7	68.8	94.3	118.6	4522.0	10260.0
31013186660000	-79.34970	42.1780	39.1	1278.6	23.6	53.4	70.8	97.0	121.9	4413.0	10098.0
31013186670000	-79.33420	42.1913	39.6	1276.2	24.0	54.0	71.7	98.2	123.4	4303.0	9933.0
31013186690000	-79.44410	42.1693	34.2	1152.1	21.9	48.9	65.5	89.8	113.0	4737.0	10569.0
31013186800000	-79.15630	42.3798	31.1	1001.3	22.1	49.2	65.3	89.6	112.9	4827.0	10696.0
31013186860000	-79.12610	42.1615	36.5	1289.0	21.3	47.8	64.7	88.6	111.4	4733.0	10563.0
31013186870000	-79.36030	42.2140	38.9	1216.2	24.6	54.6	72.5	99.3	124.7	4240.0	9838.0
31013186890000	-79.13640	42.0618	44.2	1376.5	25.6	57.3	76.2	104.2	130.7	3959.0	9397.0
31013186920000	-79.53300	42.1202	40.7	1274.7	24.9	55.8	74.0	101.3	127.1	4154.0	9705.0
31013186990000	-79.24210	42.2457	29.3	948.8	21.4	47.8	63.5	87.2	110.0	4982.0	10910.0
31013187000000	-79.21070	42.2662	28.3	918.4	21.0	44.9	61.3	83.9	105.7	4922.0	10827.0
31013187020000	-79.35730	42.1861	35.1	1221.0	21.4	47.8	64.5	88.3	111.1	4770.0	10616.0
31013187040000	-79.36010	42.1662	37.1	1245.7	22.5	52.2	68.5	94.2	118.5	4702.0	10520.0
31013187050000	-79.30560	42.1876	39.2	1240.5	24.4	54.6	72.4	99.1	124.5	4271.0	9884.0
31013187060000	-79.16070	42.1696	40.9	1330.2	24.0	53.7	71.8	98.2	123.3	4258.0	9864.0
31013187140000	-79.13180	42.4236	33.6	1061.6	23.2	51.9	68.4	94.0	118.2	4616.0	10396.0
31013187150000	-79.25339	42.2563	36.2	1135.4	24.0	47.9	68.9	93.0	116.1	3964.0	9405.0
31013187150000	-79.25340	42.2563	36.3	1142.1	23.9	53.8	70.8	97.2	122.2	4443.0	10144.0
31013187170000	-79.06830	42.1310	43.0	1324.7	25.7	57.5	76.2	104.3	130.8	3986.0	9440.0
31013187180000	-79.08700	42.1383	38.1	1282.3	22.7	50.8	68.2	93.4	117.3	4512.0	10244.0
31013187240000	-79.58510	42.0553	35.9	1286.3	20.9	47.2	63.8	87.4	110.0	4828.0	10696.0
31013187250000	-79.56375	42.0676	38.6	1326.5	22.3	45.7	66.7	89.8	112.0	4129.0	9665.0
31013187250000	-79.56380	42.0676	38.6	1325.3	22.3	50.0	67.4	92.2	115.9	4530.0	10271.0
31013187260000	-79.12770	42.1110	35.5	1297.2	20.4	45.7	62.3	85.2	107.3	4882.0	10772.0

31013187280000	-79.56780	42.1365	40.5	1258.8	25.1	56.2	74.3	101.7	127.7	4142.0	9687.0
31013187370000	-79.13329	42.4008	25.8	746.8	22.5	43.5	62.3	84.4	105.6	4471.0	10184.0
31013187370000	-79.13330	42.4008	29.5	1012.9	20.3	45.9	61.3	84.2	106.3	5128.0	11106.0
31013187380000	-79.10570	42.3935	34.3	1093.0	23.1	51.9	68.6	94.1	118.4	4599.0	10371.0
31013187390000	-79.13330	42.3083	30.9	1112.5	19.7	44.0	59.8	81.9	103.3	5123.0	11100.0
31013187400000	-79.17365	42.2744	31.6	1165.9	19.4	39.1	57.6	77.6	97.1	4867.0	10752.0
31013187400000	-79.17370	42.2744	31.6	1165.6	19.4	43.3	59.2	81.0	102.2	5141.0	11123.0
31013187460000	-79.45070	42.1679	36.8	1180.2	23.5	52.8	70.0	95.9	120.6	4449.0	10152.0
31013187480000	-79.11720	42.3203	39.0	1225.9	24.5	55.0	72.7	99.6	125.1	4268.0	9881.0
31013187490000	-79.11160	42.3122	38.8	1211.9	24.6	55.4	73.1	100.2	125.8	4269.0	9882.0
31013187540000	-79.15280	42.0514	45.0	1352.7	26.6	59.6	78.8	107.9	135.2	3817.0	9166.0
31013187650000	-79.22370	42.2110	40.1	1268.6	24.5	55.1	73.0	100.0	125.5	4225.0	9814.0
31013187690000	-79.50770	42.0997	33.1	1107.3	21.7	48.1	64.6	88.5	111.4	4785.0	10637.0
31013187700000	-79.51650	42.0875	36.9	1328.0	21.0	47.9	64.6	88.4	111.3	4806.0	10667.0
31013187710000	-79.50940	42.0838	37.4	1318.3	21.5	48.8	65.7	90.0	113.2	4715.0	10538.0
31013187840000	-79.28340	42.1789	40.0	1261.3	24.6	55.1	73.1	100.1	125.7	4212.0	9794.0
31013187850000	-79.28990	42.1819	39.5	1262.5	24.1	54.0	71.9	98.4	123.6	4280.0	9898.0
31013187900000	-79.34340	42.1767	37.5	1283.5	22.2	49.9	67.1	91.8	115.5	4588.0	10356.0
31013187920000	-79.35680	42.2084	37.4	1230.2	23.1	51.8	69.1	94.6	118.9	4479.0	10196.0
31013187980000	-79.58310	42.0449	28.1	904.7	21.1	45.4	61.5	84.3	106.2	4950.0	10866.0
31013187990000	-79.57910	42.0561	29.2	943.4	21.4	46.0	62.4	85.4	107.6	4880.0	10770.0
31013188020000	-79.10970	42.3657	34.8	1021.7	25.3	49.7	70.8	95.7	119.5	3840.0	9204.0
31013188020000	-79.10970	42.3657	34.8	1021.1	25.3	56.6	73.6	101.1	127.1	4337.0	9984.0
31013188040000	-79.09866	42.3548	35.4	1037.2	25.4	49.9	71.1	96.1	120.0	3793.0	9128.0
31013188040000	-79.09870	42.3548	35.4	1037.2	25.4	56.9	74.0	101.7	127.8	4300.0	9928.0
31013188050000	-79.09310	42.3583	35.6	1017.7	26.1	50.9	72.5	98.0	122.3	3689.0	8954.0
31013188050000	-79.09310	42.3583	35.6	1017.7	26.1	58.5	75.7	103.9	130.6	4215.0	9799.0
31013188060000	-79.10347	42.3515	35.0	1071.7	24.3	48.3	69.1	93.3	116.5	3960.0	9399.0
31013188060000	-79.10350	42.3515	35.0	1071.7	24.3	54.4	71.3	97.9	123.1	4428.0	10121.0
31013188070000	-79.13740	42.3964	29.9	1029.6	20.3	45.6	61.2	84.0	106.0	5083.0	11047.0
31013188080000	-79.13960	42.4024	35.5	1042.4	25.5	57.5	74.4	102.2	128.5	4320.0	9960.0
31013188090000	-79.14620	42.2920	38.7	1201.5	24.7	55.4	73.1	100.2	125.8	4242.0	9840.0
31013188090000	-79.14620	42.2920	38.2	1201.5	24.3	54.3	71.9	98.6	123.8	4313.0	9949.0
31013188100000	-79.16240	42.3260	34.5	1086.3	23.4	52.4	69.2	94.9	119.4	4545.0	10294.0
31013188140000	-79.22790	42.3400	37.6	1157.9	24.7	55.3	72.8	99.8	125.4	4285.0	9906.0

31013188150000	-79.44710	42.1342	39.0	1225.3	24.5	55.2	72.8	99.8	125.4	4284.0	9905.0
31013188210000	-79.23290	42.1964	39.3	1233.8	24.6	55.0	72.8	99.8	125.3	4243.0	9843.0
31013188250000	-79.14570	42.2644	39.8	1245.1	24.8	55.5	73.4	100.6	126.2	4201.0	9777.0
31013188260000	-79.63110	42.1094	40.5	1258.8	25.1	56.3	74.3	101.8	127.8	4151.0	9700.0
31013188450000	-79.10340	42.3191	38.2	1115.0	26.2	58.5	76.2	104.6	131.3	4110.0	9637.0
31013188460000	-79.50530	42.0960	31.8	1092.1	20.8	46.3	62.4	85.6	107.9	4947.0	10861.0
31013188470000	-79.49430	42.1003	41.6	1295.7	25.1	57.9	75.4	103.5	130.0	4240.0	9838.0
31013188500000	-79.24500	42.3240	28.5	1101.9	17.7	39.6	54.8	75.1	94.9	5453.0	11531.0
31013188510000	-79.26820	42.2102	30.3	1104.9	19.2	44.2	59.4	81.6	103.1	5268.0	11292.0
31013188690000	-79.26120	42.2583	34.6	1099.7	23.3	52.0	68.8	94.4	118.8	4550.0	10300.0
31013188720000	-79.61780	42.0467	41.6	1299.4	25.1	56.1	74.5	101.9	127.9	4097.0	9617.0
31013188730000	-79.08576	42.3896	32.9	987.9	24.2	47.3	67.6	91.4	114.2	4073.0	9578.0
31013188730000	-79.08580	42.3896	32.9	987.9	24.2	54.0	70.5	96.9	122.0	4530.0	10272.0
31013188740000	-79.06589	42.3846	34.4	1037.5	24.4	48.5	69.1	93.4	116.7	3972.0	9417.0
31013188740000	-79.06590	42.3846	34.5	1037.5	24.6	55.2	72.0	98.9	124.4	4422.0	10112.0
31013188750000	-79.09580	42.4114	26.1	768.1	22.3	43.3	62.1	84.0	105.2	4493.0	10217.0
31013188750000	-79.09580	42.4114	28.9	962.3	20.7	47.0	62.2	85.6	108.0	5113.0	11086.0
31013188760000	-79.07850	42.3962	31.5	987.6	22.8	44.7	64.2	86.8	108.5	4332.0	9977.0
31013188760000	-79.07850	42.3962	31.5	987.6	22.8	50.9	67.0	92.1	116.0	4739.0	10572.0
31013188770000	-79.07332	42.4093	35.1	1051.3	24.8	50.1	70.6	95.6	119.5	3923.0	9339.0
31013188770000	-79.07330	42.4093	35.1	1051.3	24.8	55.7	72.7	99.8	125.4	4375.0	10042.0
31013188780000	-79.06979	42.3884	32.7	966.2	24.5	47.4	67.9	91.7	114.6	4023.0	9500.0
31013188780000	-79.06980	42.3884	33.3	1013.2	23.9	53.7	70.2	96.5	121.4	4542.0	10289.0
31013188780000	-79.06980	42.3884	33.3	1012.9	24.0	53.8	70.4	96.7	121.6	4533.0	10276.0
31013188790000	-79.06330	42.3898	35.0	1071.7	24.3	48.7	69.2	93.6	116.9	3989.0	9446.0
31013188790000	-79.06330	42.3898	35.0	1071.7	24.3	54.4	71.3	97.9	123.1	4445.0	10146.0
31013188840000	-79.28640	42.1876	39.5	1239.9	24.6	55.2	73.1	100.1	125.7	4226.0	9816.0
31013188860000	-79.07127	42.3795	33.2	997.3	24.2	47.2	67.6	91.4	114.1	4045.0	9533.0
31013188860000	-79.07130	42.3795	33.2	997.3	24.2	54.1	70.7	97.1	122.2	4510.0	10242.0
31013188870000	-79.08222	42.4048	32.9	980.2	24.4	48.1	68.3	92.5	115.6	4042.0	9530.0
31013188870000	-79.08220	42.4048	32.9	980.2	24.4	54.7	71.2	97.9	123.1	4504.0	10233.0
31013188880000	-79.06330	42.3771	34.8	1038.1	24.8	49.0	69.9	94.4	117.9	3902.0	9305.0
31013188880000	-79.06330	42.3771	34.8	1038.2	24.8	55.7	72.6	99.7	125.3	4390.0	10065.0
31013188890000	-79.12880	42.4079	33.5	1072.3	22.9	47.0	66.5	90.1	112.7	4264.0	9875.0
31013188890000	-79.12880	42.4079	33.5	1072.3	22.9	51.3	67.8	93.1	117.2	4644.0	10436.0

31013188900000	-79.11767	42.4027	35.6	1089.4	24.4	50.2	70.5	95.6	119.5	3972.0	9418.0
31013188900000	-79.11770	42.4027	35.6	1089.4	24.4	54.9	71.9	98.7	124.1	4406.0	10088.0
31013188910000	-79.15090	42.0349	45.1	1404.2	25.7	57.6	76.7	104.8	131.4	3916.0	9328.0
31013188940000	-79.35100	42.1894	36.6	1254.3	22.0	49.4	66.4	90.9	114.3	4643.0	10435.0
31013188950000	-79.38050	42.1812	36.2	1180.5	23.1	51.9	68.9	94.4	118.7	4536.0	10281.0
31013188970000	-79.52870	42.1709	38.9	1214.9	24.6	55.1	72.8	99.8	125.3	4250.0	9853.0
31013188980000	-79.16660	42.3899	30.6	1005.8	21.5	48.1	64.0	87.9	110.8	4918.0	10822.0
31013189000000	-79.22550	42.3185	35.9	1113.7	24.2	54.1	71.3	97.8	122.9	4408.0	10092.0
31013189010000	-79.33600	42.2089	38.9	1217.1	24.6	55.1	72.8	99.8	125.4	4256.0	9862.0
31013189060000	-79.75320	42.1239	36.6	1168.9	23.6	53.0	70.2	96.3	121.0	4444.0	10144.0
31013189110000	-79.06756	42.3722	33.3	998.8	24.4	47.3	67.9	91.7	114.5	4011.0	9480.0
31013189110000	-79.06760	42.3722	33.3	999.1	24.4	54.5	71.1	97.7	123.0	4488.0	10210.0
31013189150000	-79.12873	42.3791	35.0	1043.9	24.9	49.9	70.6	95.5	119.4	3901.0	9304.0
31013189150000	-79.12870	42.3791	35.1	1047.6	24.9	55.8	72.7	99.9	125.6	4371.0	10036.0
31013189160000	-79.07046	42.4022	33.9	1045.5	23.8	47.8	67.9	91.9	114.9	4093.0	9610.0
31013189160000	-79.07050	42.4022	34.2	1045.8	24.1	53.9	70.7	97.1	122.1	4484.0	10204.0
31013189160000	-79.07050	42.4022	33.9	1045.5	23.8	53.3	70.0	96.2	121.0	4524.0	10262.0
31013189190000	-79.16660	42.1651	36.8	1314.0	21.1	47.3	64.3	88.0	110.7	4742.0	10576.0
31013189220000	-79.43980	42.1482	39.0	1222.9	24.5	55.4	72.9	100.0	125.6	4294.0	9920.0
31013189250000	-79.41140	42.1588	24.9	835.5	19.0	41.9	56.7	77.9	98.5	5403.0	11467.0
31013189260000	-79.24580	42.2492	27.8	884.5	21.3	45.9	61.6	84.5	106.6	5021.0	10963.0
31013189270000	-79.28640	42.1974	36.0	1159.8	23.3	52.0	69.1	94.7	119.1	4510.0	10242.0
31013189280000	-79.30140	42.1924	37.9	1225.0	23.6	53.0	70.4	96.5	121.2	4412.0	10097.0
31013189290000	-79.11146	42.3999	35.1	1093.3	23.9	49.0	69.1	93.6	117.0	4063.0	9562.0
31013189290000	-79.11150	42.3999	35.1	1094.2	23.9	53.6	70.5	96.7	121.6	4484.0	10203.0
31013189300000	-79.27139	42.2012	31.1	1125.3	19.6	38.5	57.4	77.1	96.4	4835.0	10706.0
31013189300000	-79.27140	42.2012	31.0	1122.9	19.6	44.8	60.3	82.8	104.5	5178.0	11173.0
31013189320000	-79.50560	42.1824	36.9	1143.3	24.4	54.5	71.8	98.5	123.8	4349.0	10002.0
31013189350000	-79.12030	42.1591	37.7	1300.0	22.1	49.6	66.8	91.4	114.9	4593.0	10363.0
31013189400000	-79.35190	42.0026	46.5	1434.7	26.2	58.6	78.0	106.7	133.7	3815.0	9163.0
31013189410000	-79.35930	42.0040	45.9	1428.3	25.8	57.8	77.1	105.4	132.1	3868.0	9250.0
31013189460000	-79.06460	42.4052	35.3	1093.9	24.1	49.0	69.3	93.8	117.3	4022.0	9498.0
31013189460000	-79.06460	42.4052	35.3	1093.9	24.1	54.1	71.0	97.5	122.6	4456.0	10163.0
31013189480000	-79.12294	42.3756	33.7	999.7	24.8	48.7	69.3	93.7	117.1	3957.0	9393.0
31013189480000	-79.12290	42.3756	33.7	1000.4	24.7	55.2	71.9	98.8	124.3	4428.0	10121.0

31013189500000	-79.09311	42.3986	33.8	968.0	25.6	50.2	71.0	96.1	120.0	3841.0	9206.0
31013189500000	-79.09310	42.3986	33.8	970.8	25.6	57.2	74.0	101.8	127.9	4340.0	9989.0
31013189510000	-79.14638	42.4023	33.5	1028.1	23.8	48.1	68.0	92.1	115.2	4124.0	9658.0
31013189510000	-79.14640	42.4023	33.5	1028.4	23.8	53.3	69.9	96.0	120.8	4536.0	10280.0
31013189550000	-79.16750	42.1699	42.4	1319.8	25.3	56.7	75.2	103.0	129.2	4050.0	9542.0
31013189580000	-79.21850	42.1762	39.1	1228.3	24.5	54.9	72.6	99.5	125.0	4267.0	9879.0
31013189590000	-79.15563	42.3891	34.8	1073.8	24.1	49.0	69.1	93.7	117.1	4045.0	9534.0
31013189590000	-79.15560	42.3891	34.8	1073.8	24.1	54.1	70.9	97.3	122.4	4472.0	10185.0
31013189620000	-79.27270	42.2157	24.0	798.6	18.8	41.9	56.4	77.6	98.3	5461.0	11540.0
31013189640000	-79.21380	42.3231	36.4	1147.0	23.9	53.3	70.5	96.7	121.6	4426.0	10118.0
31013189650000	-79.20830	42.3175	37.2	1169.8	24.1	54.0	71.4	97.9	123.0	4368.0	10031.0
31013189800000	-79.10277	42.3620	35.1	1017.4	25.7	50.3	71.6	96.8	120.8	3766.0	9083.0
31013189800000	-79.10280	42.3620	35.1	1017.4	25.7	57.4	74.5	102.4	128.7	4275.0	9891.0
31013189830000	-79.07219	42.3846	34.2	994.6	25.3	49.4	70.3	95.1	118.7	3858.0	9235.0
31013189830000	-79.07220	42.3846	34.2	994.6	25.3	56.5	73.4	100.8	126.8	4354.0	10010.0
31013189840000	-79.08810	42.3950	33.9	983.9	25.3	49.8	70.5	95.4	119.1	3875.0	9262.0
31013189840000	-79.08810	42.3950	33.9	983.9	25.3	56.7	73.5	101.0	127.0	4366.0	10028.0
31013189870000	-79.56883	42.0729	35.9	1283.5	20.9	42.4	62.4	83.9	104.8	4450.0	10153.0
31013189870000	-79.56880	42.0729	35.9	1283.5	20.9	46.8	63.6	87.0	109.5	4800.0	10658.0
31013189940000	-79.65660	42.2871	23.2	794.3	17.9	40.0	54.3	74.7	94.7	5600.0	11715.0
31013189950000	-79.68370	42.2858	22.8	771.1	18.0	40.2	54.5	75.1	95.1	5600.0	11715.0
31013189960000	-79.65330	42.2821	26.1	839.4	20.3	45.6	60.5	83.3	105.2	5223.0	11232.0
31013189970000	-79.64880	42.2775	24.6	894.6	17.5	39.1	53.6	73.7	93.3	5603.0	11719.0
31013190080000	-79.07360	42.1457	44.5	1308.5	27.1	60.8	79.9	109.4	137.1	3789.0	9121.0
31013190140000	-79.66550	42.2787	26.4	823.6	21.1	47.3	62.3	85.8	108.3	5121.0	11097.0
31013190170000	-79.21810	42.3282	37.4	1183.2	24.0	53.8	71.2	97.6	122.6	4381.0	10051.0
31013190250000	-79.17350	42.1649	40.6	1310.9	24.1	54.1	72.1	98.7	123.9	4245.0	9844.0
31013190280000	-79.55570	42.2971	26.9	899.5	19.9	44.4	59.5	81.9	103.4	5234.0	11247.0
31013190340000	-79.07600	42.1578	43.6	1284.4	27.0	60.4	79.3	108.6	136.2	3829.0	9187.0
31013190410000	-79.06479	42.4000	35.4	1084.2	24.3	49.2	69.6	94.3	117.8	3980.0	9430.0
31013190410000	-79.06480	42.4000	35.4	1084.2	24.3	54.6	71.6	98.3	123.5	4423.0	10113.0
31013190420000	-79.72910	42.0413	38.9	1212.8	24.6	55.1	72.9	99.9	125.4	4249.0	9851.0
31013190430000	-79.06471	42.3945	35.1	1066.5	24.5	49.2	69.8	94.5	118.0	3951.0	9384.0
31013190430000	-79.06470	42.3945	35.1	1066.5	24.5	55.0	71.9	98.7	124.1	4407.0	10089.0
31013190440000	-79.37180	42.1671	25.7	855.0	19.6	43.5	58.4	80.4	101.6	5316.0	11354.0

31013190450000	-79.34230	42.1578	40.1	1267.1	24.5	54.9	72.9	99.8	125.3	4212.0	9794.0
31013190460000	-79.29770	42.1766	41.5	1292.1	25.2	56.3	74.6	102.1	128.2	4092.0	9608.0
31013190470000	-79.08092	42.4099	33.9	976.6	25.5	50.4	71.1	96.3	120.3	3857.0	9232.0
31013190470000	-79.08090	42.4099	33.9	976.6	25.5	56.9	73.7	101.3	127.3	4350.0	10005.0
31013190480000	-79.07146	42.3943	34.8	1018.0	25.3	50.2	71.1	96.2	120.1	3844.0	9211.0
31013190480000	-79.07150	42.3943	34.8	1018.0	25.3	56.7	73.6	101.1	127.2	4333.0	9978.0
31013190490000	-79.55450	42.0404	41.7	1310.9	25.0	56.0	74.3	101.7	127.6	4110.0	9635.0
31013190500000	-79.65280	42.0407	42.3	1307.9	25.4	56.9	75.4	103.3	129.6	4039.0	9524.0
31013190510000	-79.72380	42.0374	38.8	1208.8	24.7	55.1	72.9	99.8	125.4	4243.0	9842.0
31013190520000	-79.54720	42.0084	41.1	1362.5	23.6	52.8	70.9	96.9	121.7	4299.0	9928.0
31013190530000	-79.57440	42.0131	43.8	1344.2	25.9	58.0	76.9	105.2	131.9	3938.0	9363.0
31013190580000	-79.42070	42.1340	38.0	1233.5	23.5	52.7	70.1	96.1	120.7	4405.0	10087.0
31013190630000	-79.37150	42.1618	28.1	904.7	21.1	46.8	62.3	85.6	108.0	5048.0	11000.0
31013190650000	-79.09744	42.3861	36.6	1046.1	26.4	52.8	74.2	100.5	125.5	3651.0	8890.0
31013190650000	-79.09740	42.3861	36.6	1046.1	26.4	59.1	76.5	105.1	132.0	4155.0	9706.0
31013190660000	-79.18976	42.3037	34.2	1039.4	24.2	47.5	68.2	92.1	115.0	4002.0	9466.0
31013190660000	-79.18980	42.3037	37.0	1254.0	22.3	50.5	67.4	92.4	116.2	4622.0	10405.0
31013190660000	-79.18980	42.3037	36.9	1254.0	22.3	50.4	67.3	92.2	116.0	4630.0	10416.0
31013190680000	-79.62350	42.0172	41.9	1275.0	25.8	57.7	76.2	104.3	130.8	4016.0	9488.0
31013190860000	-79.44510	42.1418	38.4	1221.6	24.1	54.1	71.6	98.1	123.3	4334.0	9981.0
31013190950000	-79.48400	42.1576	37.5	1195.1	23.9	53.5	70.9	97.2	122.1	4383.0	10054.0
31013190980000	-79.42850	42.1419	38.3	1212.2	24.2	54.1	71.7	98.3	123.4	4320.0	9959.0
31013191010000	-79.52510	42.0831	40.9	1336.6	23.9	53.9	71.8	98.3	123.4	4285.0	9906.0
31013191070000	-79.39820	42.1317	37.7	1204.9	23.8	53.3	70.7	96.9	121.7	4389.0	10063.0
31013191100000	-79.59580	42.0771	42.5	1324.1	25.3	56.6	75.1	102.8	129.0	4052.0	9545.0
31013191120000	-79.32140	42.1493	39.9	1252.7	24.7	55.0	73.0	100.0	125.5	4197.0	9772.0
31013191130000	-79.36690	42.1979	38.7	1202.4	24.7	54.6	72.6	99.4	124.8	4225.0	9814.0
31013191140000	-79.33400	42.1979	39.0	1226.5	24.5	55.1	72.7	99.7	125.2	4274.0	9890.0
31013191150000	-79.62050	42.0133	40.1	1271.0	24.5	54.7	72.7	99.6	125.0	4212.0	9795.0
31013191160000	-79.31780	42.1546	41.5	1289.6	25.2	56.5	74.8	102.4	128.5	4096.0	9615.0
31013191180000	-79.15710	42.3511	35.5	1122.6	23.6	53.0	69.9	95.9	120.6	4500.0	10227.0
31013191210000	-79.33570	42.2264	38.6	1193.6	24.8	55.6	73.3	100.5	126.2	4239.0	9835.0
31013191220000	-79.71220	42.0606	38.0	1190.6	24.4	54.4	72.0	98.7	124.0	4303.0	9933.0
31013191330000	-79.53800	42.0769	41.6	1341.7	24.3	54.5	72.7	99.5	124.8	4208.0	9788.0
31013191350000	-79.75235	42.0255	39.9	1253.3	24.7	49.1	71.6	96.3	119.9	3696.0	8967.0

31013191350000	-79.75240	42.0255	39.9	1253.3	24.7	55.2	73.2	100.3	125.9	4205.0	9783.0
31013191400000	-79.57940	42.0696	40.6	1266.1	25.0	55.9	74.1	101.4	127.3	4143.0	9688.0
31013191560000	-79.17430	42.1699	40.6	1308.8	24.2	54.1	72.1	98.7	123.9	4241.0	9839.0
31013191610000	-79.55400	42.1343	38.9	1214.9	24.6	55.0	72.8	99.7	125.2	4247.0	9849.0
31013191650000	-79.21217	42.2187	41.5	1291.4	25.2	52.1	74.1	100.2	124.9	3650.0	8890.0
31013191650000	-79.21220	42.2187	41.5	1293.3	25.2	56.4	74.7	102.3	128.3	4098.0	9617.0
31013191690000	-79.51360	42.0724	44.4	1345.7	26.3	59.0	78.0	106.7	133.8	3881.0	9271.0
31013191700000	-79.43080	42.1375	37.8	1219.5	23.6	53.0	70.4	96.5	121.2	4398.0	10076.0
31013191710000	-79.19270	42.3111	38.9	1216.5	24.6	55.2	72.9	99.9	125.5	4263.0	9873.0
31013191720000	-79.19210	42.3164	39.0	1225.9	24.5	55.0	72.7	99.6	125.1	4264.0	9874.0
31013191820000	-79.45960	42.1604	36.8	1182.9	23.5	52.7	69.9	95.8	120.4	4449.0	10153.0
31013191880000	-79.47840	42.1227	40.9	1288.4	24.8	56.1	74.0	101.4	127.3	4214.0	9797.0
31013191890000	-79.34940	42.1721	30.2	976.3	21.7	47.3	63.4	86.9	109.5	4884.0	10775.0
31013191920000	-79.16720	42.3502	34.5	1086.9	23.4	52.5	69.3	95.1	119.6	4549.0	10299.0
31013191940000	-79.52430	42.0008	48.3	1410.0	27.8	62.5	82.4	112.7	141.1	3597.0	8799.0
31013191950000	-79.41960	42.1577	24.4	803.8	19.2	41.2	56.3	77.3	97.7	5348.0	11396.0
31013191990000	-79.44170	42.1446	29.3	912.3	22.3	47.7	64.1	87.9	110.6	4795.0	10652.0
31013192000000	-79.49050	42.1094	38.7	1242.1	23.9	53.8	71.3	97.7	122.8	4362.0	10022.0
31013192040000	-79.14650	42.4486	28.5	930.6	20.9	46.9	62.3	85.6	108.0	5065.0	11022.0
31013192050000	-79.68650	42.0212	47.3	1307.3	29.3	65.6	85.5	117.1	146.6	3491.0	8618.0
31013192100000	-79.35510	42.1693	33.1	985.1	24.5	54.2	70.9	97.3	122.4	4475.0	10191.0
31013192140000	-79.19070	42.2855	34.9	916.5	28.3	60.6	79.2	108.5	136.1	3831.0	9189.0
31013192340000	-79.55270	42.0225	42.4	1316.1	25.4	56.7	75.2	103.0	129.2	4043.0	9530.0
31013192350000	-79.54720	42.0405	40.6	1306.4	24.2	54.0	72.1	98.6	123.8	4236.0	9831.0
31013192410000	-79.72230	42.0912	37.3	1175.9	24.1	53.8	71.2	97.6	122.7	4370.0	10034.0
31013192420000	-79.69210	42.0950	39.7	1235.1	24.9	55.7	73.6	100.9	126.6	4196.0	9769.0
31013192430000	-79.41610	42.1549	27.1	873.3	20.7	45.1	60.5	83.1	104.9	5119.0	11095.0
31013192440000	-79.40930	42.1467	37.6	1202.7	23.8	52.2	70.0	95.7	120.2	4363.0	10024.0
31013192450000	-79.69980	42.0663	38.8	1211.6	24.6	55.2	72.9	100.0	125.5	4250.0	9852.0
31013192510000	-79.18030	42.1907	41.2	1314.6	24.5	55.0	73.1	100.1	125.6	4179.0	9743.0
31013192520000	-79.24953	42.2446	31.8	949.1	24.0	45.9	66.6	89.7	112.0	4055.0	9549.0
31013192520000	-79.24950	42.2446	31.8	948.5	24.0	54.1	70.2	96.6	121.6	4614.0	10393.0
31013192550000	-79.54700	42.0351	37.6	1334.4	21.4	48.0	65.2	89.1	112.0	4680.0	10488.0
31013192560000	-79.58110	42.1384	39.8	1241.8	24.8	55.5	73.5	100.7	126.4	4199.0	9774.0
31013192610000	-79.29270	42.1769	41.0	1293.9	24.7	55.4	73.6	100.7	126.4	4166.0	9723.0

31013192620000	-79.51700	42.0020	43.3	1392.9	24.6	55.0	73.7	100.7	126.3	4094.0	9611.0
31013192670000	-79.13660	42.1566	40.5	1303.9	24.2	54.2	72.2	98.9	124.1	4239.0	9836.0
31013192760000	-79.71150	42.0816	38.9	1214.3	24.6	55.1	72.9	99.8	125.4	4251.0	9853.0
31013192770000	-79.59470	42.0413	44.6	1365.5	26.1	58.7	77.6	106.2	133.2	3911.0	9319.0
31013192850000	-79.09680	42.1676	39.8	1246.6	24.7	55.4	73.3	100.4	126.1	4200.0	9775.0
31013192910000	-79.12470	42.4416	30.0	964.7	21.8	48.9	64.7	88.9	112.0	4901.0	10799.0
31013192920000	-79.13980	42.1613	39.8	1290.8	23.9	53.5	71.4	97.7	122.7	4299.0	9927.0
31013192940000	-79.22730	42.2555	36.5	1204.3	22.9	51.0	68.2	93.3	117.3	4531.0	10272.0
31013192950000	-79.23530	42.2557	34.9	1203.7	21.5	49.2	65.4	89.7	113.0	4840.0	10713.0
31013193000000	-79.20980	42.2780	26.4	864.1	20.2	43.4	58.8	80.7	101.9	5206.0	11210.0
31013193010000	-79.19970	42.2160	41.4	1285.0	25.2	56.4	74.8	102.4	128.4	4088.0	9601.0
31013193030000	-79.75475	42.0628	41.5	1291.1	25.2	50.8	73.5	99.0	123.3	3605.0	8813.0
31013193030000	-79.75480	42.0628	41.5	1293.0	25.2	56.4	74.7	102.3	128.3	4099.0	9618.0
31013193040000	-79.59440	42.0464	42.4	1366.1	24.5	55.1	73.3	100.4	126.0	4168.0	9726.0
31013193370000	-79.13660	42.1515	41.6	1301.8	25.1	56.3	74.6	102.1	128.1	4111.0	9638.0
31013193430000	-79.50210	42.0838	43.4	1307.6	26.3	58.7	77.6	106.2	133.2	3906.0	9311.0
31013193470000	-79.25380	42.2309	25.8	858.3	19.5	41.9	57.3	78.6	99.2	5273.0	11298.0
31013193480000	-79.25986	42.2312	29.2	946.1	21.4	40.9	60.4	81.2	101.5	4548.0	10297.0
31013193480000	-79.25990	42.2312	29.3	948.5	21.4	47.3	63.0	86.6	109.2	4973.0	10897.0
31013193510000	-79.09840	42.3936	32.9	1047.3	22.9	51.3	67.7	92.9	117.0	4675.0	10481.0
31013193520000	-79.36350	42.2337	38.6	1208.8	24.5	54.7	72.5	99.3	124.7	4264.0	9874.0
31013193540000	-79.30480	42.2081	36.9	1148.5	24.3	54.8	72.0	98.7	124.1	4376.0	10044.0
31013193550000	-79.34130	42.1885	40.2	1273.8	24.5	52.8	71.4	97.5	122.2	4168.0	9727.0
31013193570000	-79.09190	42.1642	39.7	1239.6	24.8	55.5	73.4	100.5	126.2	4204.0	9782.0
31013193730000	-79.31990	42.1870	28.3	922.3	21.0	45.0	61.3	83.9	105.7	4945.0	10859.0
31013193740000	-79.25880	42.2272	29.2	940.9	21.4	48.2	63.8	87.7	110.6	4994.0	10926.0
31013193800000	-79.34390	42.1637	39.7	1281.1	24.0	54.3	71.8	98.4	123.7	4338.0	9986.0
31013193810000	-79.31680	42.1697	41.5	1288.7	25.2	56.5	74.8	102.4	128.5	4098.0	9618.0
31013193870000	-79.60680	42.0507	42.4	1322.2	25.3	56.6	75.1	102.8	129.0	4048.0	9538.0
31013193940000	-79.21250	42.2699	38.7	1245.4	23.9	53.6	71.2	97.5	122.5	4351.0	10005.0
31013193970000	-79.32570	42.1977	27.5	899.8	20.5	45.6	60.9	83.7	105.7	5139.0	11121.0
31013193980000	-79.31820	42.1973	28.4	922.0	21.1	47.3	62.7	86.3	108.9	5048.0	10999.0
31013193990000	-79.57070	42.3030	25.5	836.4	19.7	44.0	58.8	80.9	102.3	5314.0	11351.0
31013197010000	-79.11190	42.0607	41.7	1450.9	22.6	50.4	68.5	93.6	117.5	4394.0	10070.0
31013197040000	-79.10930	42.4378	29.4	996.1	20.4	46.0	61.5	84.5	106.6	5098.0	11067.0

31013197040000	-79.10930	42.4378	30.0	965.0	21.8	48.7	64.6	88.7	111.8	4899.0	10796.0
31013197050000	-79.31340	42.1902	26.1	856.2	20.0	42.7	58.5	80.1	101.0	5158.0	11146.0
31013197060000	-79.33620	42.1786	39.6	1275.6	24.0	52.2	70.6	96.4	120.9	4254.0	9859.0
31013197070000	-79.31360	42.1465	40.6	1261.9	25.0	56.1	74.2	101.6	127.6	4143.0	9687.0
31013197080000	-79.36190	42.1795	37.7	1206.1	23.8	53.4	70.8	97.0	121.9	4404.0	10086.0
31013197090000	-79.21850	42.3175	35.4	1118.0	23.6	52.9	69.9	95.9	120.5	4486.0	10207.0
31013197110000	-79.65840	42.2774	26.3	858.6	20.2	45.2	60.2	82.8	104.6	5226.0	11236.0
31013197120000	-79.66290	42.2818	25.1	810.2	19.9	44.5	59.2	81.5	103.1	5310.0	11346.0
31013197210000	-79.19410	42.1649	42.4	1316.1	25.4	56.9	75.4	103.2	129.4	4055.0	9550.0
31013197230000	-79.20830	42.3826	34.6	1095.5	23.4	52.6	69.2	95.0	119.6	4572.0	10332.0
31013197240000	-79.30400	42.1520	40.7	1273.5	24.9	55.9	74.0	101.4	127.2	4157.0	9709.0
31013197280000	-79.13110	42.1585	40.1	1253.3	24.9	55.3	73.4	100.5	126.1	4167.0	9726.0
31013197290000	-79.32750	42.2795	32.0	1025.7	22.4	50.2	66.4	91.2	114.8	4758.0	10599.0
31013197310000	-79.24020	42.2540	36.8	1184.2	23.5	53.3	70.2	96.4	121.2	4501.0	10229.0
31013197320000	-79.35490	42.1601	39.4	1253.6	24.2	54.4	72.2	98.9	124.1	4287.0	9909.0
31013197330000	-79.24260	42.2300	28.2	912.0	21.1	45.2	61.4	84.1	106.0	4952.0	10869.0
31013197340000	-79.66120	42.2853	24.4	803.5	19.2	43.0	57.6	79.4	100.4	5407.0	11471.0
31013197350000	-79.31930	42.2010	32.6	1031.8	22.9	51.5	67.8	93.1	117.2	4693.0	10507.0
31013197360000	-79.12660	42.4368	30.5	995.8	21.6	48.3	64.2	88.1	111.1	4916.0	10819.0
31013197380000	-79.56900	42.0365	41.3	1286.3	25.1	56.1	74.4	101.9	127.8	4099.0	9619.0
31013197420000	-79.65810	42.2810	27.5	826.0	22.4	50.2	65.5	90.2	113.8	4931.0	10840.0
31013197430000	-79.56570	42.0407	40.5	1302.4	24.2	54.2	72.3	98.9	124.2	4237.0	9833.0
31013197460000	-79.11740	42.4430	22.4	956.2	14.0	31.4	45.2	62.1	78.9	6086.0	12299.0
31013197500000	-79.50520	42.0918	34.1	1098.2	22.8	49.1	66.4	90.7	114.0	4572.0	10333.0
31013197510000	-79.51300	42.0977	34.1	1100.0	22.8	49.5	66.6	91.1	114.6	4604.0	10379.0
31013197520000	-79.49960	42.1097	38.3	1258.5	23.3	52.3	69.8	95.5	120.1	4428.0	10122.0
31013197590000	-79.11650	42.4379	29.5	966.5	21.2	47.4	63.1	86.7	109.3	4987.0	10916.0
31013197600000	-79.24217	42.2110	37.8	1194.5	24.1	48.5	69.9	94.3	117.6	3888.0	9283.0
31013197600000	-79.24220	42.2110	37.8	1195.7	24.1	54.0	71.5	98.0	123.1	4348.0	10001.0
31013197620000	-79.29160	42.1712	42.3	1310.6	25.4	57.0	75.4	103.3	129.6	4046.0	9536.0
31013197630000	-79.24290	42.1453	42.4	1316.7	25.3	56.8	75.3	103.1	129.3	4050.0	9542.0
31013197640000	-79.32130	42.1913	27.5	903.7	20.5	45.8	61.0	83.9	105.9	5144.0	11128.0
31013197660000	-79.66180	42.2675	29.2	941.5	21.4	48.0	63.6	87.4	110.3	4982.0	10909.0
31013197740000	-79.23550	42.2953	35.4	1118.9	23.6	52.9	69.9	95.9	120.6	4489.0	10211.0
31013197750000	-79.64210	42.2883	20.1	809.9	13.7	30.6	44.1	60.7	77.3	6163.0	12389.0

31013197830000	-79.30000	42.1621	40.8	1282.6	24.8	55.6	73.8	101.0	126.8	4156.0	9708.0
31013197840000	-79.30600	42.1599	40.6	1260.0	25.1	55.9	74.1	101.5	127.3	4136.0	9677.0
31013197850000	-79.31430	42.2042	40.7	1270.4	24.9	57.8	74.9	102.9	129.3	4316.0	9953.0
31013197870000	-79.51170	42.0837	33.5	1098.8	22.3	48.9	65.7	89.9	113.2	4693.0	10506.0
31013197920000	-79.57720	42.0294	35.0	1304.9	19.9	44.7	61.2	83.7	105.3	4964.0	10885.0
31013197950000	-79.63100	42.2884	25.5	839.4	19.7	44.1	58.9	81.1	102.5	5318.0	11356.0
31013197960000	-79.64210	42.2810	26.0	877.2	19.4	43.5	58.4	80.4	101.6	5324.0	11365.0
31013197990000	-79.42510	42.1389	37.9	1222.6	23.6	51.9	69.7	95.3	119.7	4377.0	10045.0
31013198060000	-79.11720	42.4518	28.4	927.5	20.9	46.9	62.3	85.7	108.1	5064.0	11021.0
31013198070000	-79.63970	42.0180	40.3	1282.9	24.4	56.5	73.5	101.0	127.0	4391.0	10065.0
31013198080000	-79.57480	42.0237	41.7	1305.8	25.0	56.1	74.4	101.9	127.9	4107.0	9632.0
31013198080000	-79.57480	42.0237	39.7	1280.2	24.0	53.4	71.3	97.6	122.6	4284.0	9905.0
31013198090000	-79.32000	42.1821	38.9	1257.9	23.7	53.2	70.9	97.1	121.9	4352.0	10007.0
31013198130000	-79.24050	42.2584	36.7	1174.1	23.6	53.2	70.2	96.3	121.1	4466.0	10177.0
31013198140000	-79.31530	42.1935	26.6	876.3	20.1	43.6	58.9	80.9	102.1	5215.0	11222.0
31013198210000	-79.34190	42.1431	40.7	1267.4	25.0	55.9	74.0	101.4	127.2	4144.0	9689.0
31013198220000	-79.32720	42.1384	41.5	1293.0	25.2	56.4	74.7	102.3	128.3	4097.0	9615.0
31013198240000	-79.53000	42.1270	39.9	1249.1	24.7	55.4	73.3	100.4	126.1	4203.0	9780.0
31013198250000	-79.59520	42.0297	39.1	1273.5	23.6	52.8	70.5	96.5	121.2	4356.0	10014.0
31013198260000	-79.48320	42.1937	36.4	1148.5	23.8	53.5	70.6	96.8	121.7	4433.0	10129.0
31013198300000	-79.63700	42.2957	23.6	785.8	18.6	41.6	56.1	77.2	97.7	5501.0	11591.0
31013198350000	-79.33500	42.1465	42.2	1303.3	25.5	57.1	75.6	103.5	129.8	4041.0	9528.0
31013198360000	-79.31290	42.2134	37.8	1175.0	24.5	55.0	72.5	99.4	124.9	4300.0	9928.0
31013198380000	-79.57140	42.1831	37.2	1165.6	24.2	54.0	71.4	97.9	123.0	4363.0	10024.0
31013198450000	-79.32740	42.1439	42.3	1311.6	25.4	56.9	75.4	103.3	129.5	4046.0	9536.0
31013198460000	-79.32720	42.1675	41.5	1290.2	25.2	56.3	74.7	102.2	128.2	4091.0	9606.0
31013198490000	-79.16530	42.3607	33.9	1045.2	23.8	53.4	70.1	96.3	121.1	4527.0	10267.0
31013198510000	-79.23530	42.3115	35.2	1103.7	23.8	53.2	70.2	96.3	121.1	4479.0	10197.0
31013198530000	-79.34990	42.0080	46.0	1438.7	25.7	57.7	77.0	105.2	131.9	3881.0	9271.0
31013198540000	-79.26570	42.0608	44.2	1377.7	25.6	57.3	76.2	104.2	130.7	3964.0	9405.0
31013198550000	-79.53160	42.1680	38.3	1214.9	24.1	54.0	71.6	98.1	123.3	4321.0	9960.0
31013198570000	-79.52880	42.1649	39.1	1229.9	24.5	54.8	72.6	99.4	124.9	4264.0	9873.0
31013198580000	-79.10500	42.3884	33.7	1074.1	23.0	51.7	68.2	93.6	117.9	4624.0	10408.0
31013198590000	-79.12740	42.3851	33.6	1060.1	23.2	52.0	68.5	94.1	118.4	4618.0	10400.0
31013198600000	-79.64210	42.2921	24.3	793.1	19.3	43.1	57.7	79.5	100.5	5404.0	11468.0

31013198730000	-79.64210	42.2847	25.5	840.6	19.7	44.0	58.8	80.9	102.3	5316.0	11354.0
31013198760000	-79.37220	42.0046	47.4	1462.4	26.3	58.9	78.5	107.3	134.4	3779.0	9104.0
31013198770000	-79.63720	42.2883	25.3	826.3	19.7	44.3	59.0	81.3	102.7	5315.0	11352.0
31013198820000	-79.41490	42.1379	39.7	1240.5	24.8	54.9	73.0	99.9	125.4	4191.0	9761.0
31013198840000	-79.62740	42.2774	30.1	968.7	21.8	48.8	64.6	88.8	111.9	4904.0	10803.0
31013198850000	-79.62730	42.2811	28.3	919.0	21.0	47.0	62.4	85.9	108.3	5060.0	11016.0
31013198930000	-79.63290	42.0342	40.7	1274.1	24.9	55.7	73.9	101.1	126.9	4147.0	9694.0
31013198970000	-79.25010	42.2462	25.5	840.9	19.7	43.2	58.2	80.0	101.1	5307.0	11342.0
31013198980000	-79.09670	42.1384	37.5	1238.1	23.0	51.5	68.8	94.3	118.5	4479.0	10196.0
31013198990000	-79.18240	42.1987	42.3	1309.7	25.4	57.0	75.4	103.3	129.6	4042.0	9530.0
31013199000000	-79.67620	42.2547	30.5	968.0	22.2	49.6	65.5	90.0	113.5	4840.0	10714.0
31013199030000	-79.17790	42.2071	41.5	1289.3	25.2	56.4	74.8	102.4	128.4	4093.0	9610.0
31013199050000	-79.26710	42.2263	22.6	754.4	18.0	38.7	53.3	73.2	92.7	5570.0	11678.0
31013199090000	-79.26807	42.2198	27.5	900.7	20.5	39.8	58.8	79.1	98.9	4694.0	10508.0
31013199090000	-79.26810	42.2198	27.7	912.9	20.4	44.7	60.2	82.6	104.2	5135.0	11116.0
31013199100000	-79.37080	42.1761	26.3	855.0	20.2	43.8	59.1	81.2	102.5	5208.0	11212.0
31013199110000	-79.38440	42.1708	26.4	863.5	20.2	44.8	59.9	82.4	104.1	5223.0	11233.0
31013199230000	-79.61700	42.1529	38.0	1185.7	24.4	54.7	72.3	99.0	124.4	4304.0	9935.0
31013199240000	-79.40912	42.1542	29.8	1156.1	18.0	35.9	53.9	72.4	90.6	5172.0	11165.0
31013199240000	-79.40910	42.1542	36.0	1160.7	23.2	53.3	69.8	95.9	120.6	4608.0	10385.0
31013199350000	-79.26350	42.2235	30.0	962.9	21.8	49.1	64.8	89.1	112.3	4910.0	10811.0
31013199400000	-79.50880	42.1950	28.8	952.8	20.7	44.5	60.6	83.0	104.6	5009.0	10946.0
31013199410000	-79.33000	42.1720	40.7	1275.3	24.9	55.8	73.9	101.2	127.0	4151.0	9700.0
31013199430000	-79.12160	42.0614	44.2	1422.5	24.7	55.4	74.2	101.5	127.2	4053.0	9547.0
31013199440000	-79.69970	42.2644	24.0	815.0	18.5	40.9	55.5	76.4	96.6	5501.0	11590.0
31013199450000	-79.65440	42.2754	27.4	897.6	20.5	46.1	61.3	84.3	106.4	5145.0	11130.0
31013199460000	-79.32280	42.1721	39.7	1279.3	24.0	53.8	71.6	98.0	123.1	4292.0	9916.0
31013199470000	-79.34880	42.1640	39.0	1266.4	23.7	53.4	70.9	97.2	122.1	4386.0	10058.0
31013199480000	-79.27130	42.2224	28.4	925.7	21.0	46.7	62.2	85.5	107.9	5060.0	11015.0
31013199490000	-79.26307	42.1952	36.0	1134.2	23.8	46.9	68.1	91.8	114.5	3970.0	9414.0
31013199490000	-79.26310	42.1952	36.0	1136.0	23.8	53.4	70.5	96.6	121.5	4446.0	10147.0
31013199500000	-79.28210	42.2165	33.8	917.1	27.1	60.9	77.6	106.8	134.3	4218.0	9804.0
31013199510000	-79.27840	42.2140	21.1	724.8	16.6	35.8	49.9	68.6	87.1	5795.0	11954.0
31013199640000	-79.26350	42.2691	35.5	1118.3	23.7	52.9	70.0	95.9	120.6	4477.0	10194.0
31013199820000	-79.34290	42.1486	39.7	1281.7	24.0	53.8	71.6	98.0	123.1	4298.0	9926.0

31013199830000	-79.22640	42.1734	28.2	910.7	21.1	45.0	61.4	84.1	105.8	4912.0	10814.0
31013199880000	-79.67850	42.2585	29.9	951.0	21.9	49.2	64.9	89.2	112.5	4898.0	10794.0
31013200040000	-79.11600	42.1418	40.8	1279.9	24.9	55.7	73.8	101.1	126.9	4156.0	9707.0
31013200050000	-79.10740	42.1447	39.7	1234.4	24.9	55.6	73.6	100.8	126.5	4191.0	9762.0
31013200120000	-79.15410	42.3708	31.2	1011.6	22.0	49.1	65.2	89.5	112.8	4834.0	10705.0
31013200130000	-79.14720	42.3622	33.0	1059.5	22.6	50.8	67.2	92.2	116.1	4694.0	10509.0
31013200190000	-79.71760	42.2547	24.5	809.6	19.2	43.0	57.6	79.3	100.3	5407.0	11472.0
31013200200000	-79.14630	42.3520	34.1	1100.9	22.8	50.9	67.6	92.7	116.6	4630.0	10417.0
31013200210000	-79.15440	42.3608	32.4	1054.0	22.2	49.7	65.9	90.5	113.9	4772.0	10619.0
31013200220000	-79.11990	42.3939	32.1	1036.6	22.3	50.0	66.2	90.9	114.5	4765.0	10609.0
31013200250000	-79.72050	42.2581	24.5	809.6	19.2	43.3	57.8	79.6	100.7	5421.0	11489.0
31013200290000	-79.46480	42.1162	39.8	1289.9	23.9	53.6	71.4	97.8	122.8	4302.0	9932.0
31013200360000	-79.44010	42.1237	27.6	911.4	20.5	44.5	60.0	82.4	104.0	5133.0	11113.0
31013200370000	-79.46090	42.1268	38.2	1252.7	23.4	52.3	69.8	95.6	120.1	4417.0	10105.0
31013200380000	-79.48660	42.1171	39.6	1271.0	24.1	55.1	72.3	99.3	124.7	4388.0	10061.0
31013200390000	-79.45740	42.1240	38.2	1249.7	23.4	52.5	69.9	95.8	120.4	4426.0	10118.0
31013200460000	-79.13920	42.3898	32.1	1036.6	22.3	49.9	66.2	90.8	114.4	4763.0	10605.0
31013200470000	-79.12510	42.3679	32.0	1024.1	22.4	50.3	66.5	91.3	115.0	4764.0	10608.0
31013200480000	-79.26677	42.2157	35.5	1120.7	23.6	46.5	67.5	90.9	113.4	4025.0	9502.0
31013200480000	-79.26680	42.2157	35.5	1121.1	23.6	53.4	70.2	96.3	121.2	4529.0	10269.0
31013200560000	-79.53880	42.0100	43.1	1330.8	25.6	57.2	76.0	103.9	130.3	3985.0	9439.0
31013200690000	-79.22650	42.1735	37.9	1190.2	24.3	54.3	71.9	98.5	123.8	4320.0	9959.0
31013200710000	-79.37680	42.1627	32.2	962.3	24.1	54.2	70.5	97.0	122.1	4570.0	10330.0
31013200780000	-79.74480	42.0293	41.1	1278.3	25.1	56.3	74.5	102.1	128.1	4114.0	9643.0
31013200830000	-79.68120	42.2554	30.2	967.1	21.9	48.5	64.5	88.5	111.6	4875.0	10762.0
31013200870000	-79.59280	42.0509	42.5	1376.8	24.4	54.9	73.2	100.1	125.7	4181.0	9746.0
31013200950000	-79.60380	42.0441	43.1	1332.0	25.6	57.4	76.0	104.1	130.5	3991.0	9448.0
31013200980000	-79.55380	42.0078	44.8	1383.5	25.9	58.2	77.2	105.6	132.4	3914.0	9325.0
31013200990000	-79.75900	42.1336	36.5	1117.1	24.6	55.0	72.3	99.2	124.6	4330.0	9974.0
31013201050000	-79.40430	42.0723	41.5	1295.1	25.1	56.4	74.7	102.2	128.3	4101.0	9623.0
31013201170000	-79.47870	42.1187	30.2	976.3	21.7	46.6	63.1	86.3	108.7	4827.0	10696.0
31013201190000	-79.40370	42.0760	41.1	1277.7	25.1	56.3	74.5	102.1	128.1	4112.0	9639.0
31013201200000	-79.30330	42.1958	31.7	1008.3	22.6	49.9	66.3	90.9	114.5	4739.0	10572.0
31013201210000	-79.29868	42.1984	30.1	967.7	21.8	41.7	61.6	82.8	103.4	4436.0	10133.0
31013201210000	-79.29870	42.1984	30.1	966.2	21.8	49.0	64.8	89.0	112.2	4914.0	10816.0

31013201220000	-79.30811	42.2042	26.3	855.9	20.2	39.0	57.9	77.8	97.2	4763.0	10606.0
31013201220000	-79.30810	42.2042	30.7	855.0	25.4	54.7	71.4	98.0	123.3	4441.0	10140.0
31013201230000	-79.20540	42.2704	32.6	1072.0	22.0	48.8	65.3	89.5	112.7	4771.0	10617.0
31013201260000	-79.14180	42.3764	32.3	1053.1	22.2	49.6	65.9	90.5	113.9	4771.0	10618.0
31013201270000	-79.21879	42.2487	23.7	909.5	16.2	31.0	47.6	63.8	80.0	5687.0	11822.0
31013201270000	-79.21880	42.2487	23.7	910.7	16.2	34.8	49.5	67.7	85.8	5750.0	11899.0
31013201300000	-79.30930	42.1975	26.3	856.8	20.2	45.1	60.1	82.7	104.4	5223.0	11233.0
31013201310000	-79.56000	42.0815	42.7	1318.3	25.5	57.3	75.9	103.8	130.3	4023.0	9499.0
31013201360000	-79.30360	42.2014	28.3	922.6	21.0	46.1	61.7	84.8	106.9	5049.0	11000.0
31013201370000	-79.53520	42.1833	37.2	1170.4	24.1	53.9	71.3	97.7	122.8	4366.0	10028.0
31013201400000	-79.62730	42.2847	34.3	874.8	29.0	64.8	81.8	112.7	141.5	4005.0	9470.0
31013201410000	-79.63220	42.2847	34.1	855.3	29.3	65.4	82.4	113.5	142.5	3984.0	9438.0
31013201420000	-79.62580	42.2900	32.6	827.8	28.5	63.6	80.2	110.5	138.9	4127.0	9663.0
31013201460000	-79.62790	42.2935	32.3	807.7	28.8	64.5	81.1	111.7	140.4	4113.0	9641.0
31013201470000	-79.54620	42.0745	43.8	1361.5	25.6	57.6	76.3	104.5	131.0	3992.0	9449.0
31013201480000	-79.72040	42.0336	39.7	1234.7	24.9	55.5	73.5	100.7	126.4	4190.0	9760.0
31013201490000	-79.55210	42.0801	43.2	1339.6	25.5	57.9	76.2	104.4	131.0	4059.0	9556.0
31013201530000	-79.56800	42.2354	34.6	1098.8	23.3	52.2	69.0	94.7	119.1	4554.0	10306.0
31013201570000	-79.20340	42.2845	31.2	1008.0	22.0	49.0	65.1	89.4	112.6	4828.0	10698.0
31013201630000	-79.42490	42.1556	36.2	1176.8	23.1	52.1	69.0	94.7	119.1	4548.0	10298.0
31013201670000	-79.63720	42.2774	34.9	917.5	28.3	63.1	80.3	110.4	138.7	4036.0	9519.0
31013201730000	-79.20312	42.2643	33.7	1074.7	23.0	45.4	65.7	88.6	110.6	4186.0	9755.0
31013201730000	-79.20310	42.2643	33.8	1075.3	23.0	50.8	67.6	92.7	116.6	4605.0	10381.0
31013201740000	-79.13070	42.1494	40.5	1263.4	24.9	55.8	73.9	101.2	127.0	4156.0	9708.0
31013201800000	-79.07900	42.1187	40.9	1288.1	24.8	55.5	73.6	100.8	126.5	4159.0	9712.0
31013201820000	-79.36160	42.1792	27.4	896.1	20.6	44.0	60.1	82.3	103.7	5015.0	10954.0
31013201830000	-79.31900	42.1646	38.9	1264.0	23.7	52.9	70.6	96.6	121.4	4347.0	10000.0
31013201840000	-79.32900	42.1492	39.9	1295.7	23.8	53.5	71.3	97.6	122.6	4306.0	9938.0
31013202010000	-79.30760	42.1760	39.8	1286.9	23.9	53.5	71.4	97.7	122.7	4294.0	9920.0
31013202020000	-79.31260	42.2081	35.9	1155.8	23.3	52.5	69.4	95.2	119.7	4534.0	10277.0
31013202030000	-79.32730	42.1929	29.0	929.9	21.5	46.7	62.6	85.9	108.3	4952.0	10869.0
31013202040000	-79.14590	42.3814	33.2	1073.8	22.5	50.5	66.9	91.9	115.7	4707.0	10526.0
31013202050000	-79.37080	42.1723	29.4	956.2	21.3	48.1	63.6	87.5	110.4	5010.0	10948.0
31013202080000	-79.36010	42.1669	28.5	934.2	20.9	45.9	61.6	84.5	106.6	5053.0	11006.0
31013202100000	-79.58938	42.1095	39.0	1221.9	24.5	49.5	71.2	96.1	119.8	3787.0	9117.0

31013202100000	-79.58940	42.1095	39.0	1223.8	24.5	54.9	72.7	99.6	125.1	4257.0	9863.0
31013202110000	-79.60150	42.0545	43.1	1329.5	25.6	57.2	76.0	104.0	130.4	3984.0	9438.0
31013202140000	-79.33720	42.1681	31.0	993.3	22.1	47.6	64.2	87.9	110.6	4771.0	10617.0
31013202170000	-79.30920	42.1707	36.3	1278.3	21.4	47.9	64.8	88.7	111.5	4723.0	10549.0
31013202180000	-79.53700	42.0680	43.1	1332.6	25.6	57.4	76.1	104.1	130.6	3995.0	9455.0
31013202190000	-79.54760	42.1750	38.9	1213.1	24.6	55.2	72.9	99.9	125.5	4254.0	9859.0
31013202440000	-79.41980	42.1377	39.7	1237.5	24.8	55.5	73.4	100.6	126.3	4191.0	9762.0
31013202450000	-79.21270	42.3331	37.1	1165.3	24.2	54.2	71.5	98.1	123.2	4369.0	10033.0
31013202460000	-79.22700	42.2862	36.9	1147.3	24.3	54.5	71.9	98.5	123.8	4355.0	10012.0
31013202670000	-79.21540	42.2756	24.6	817.5	19.1	41.0	56.3	77.2	97.5	5325.0	11365.0
31013202670000	-79.21540	42.2756	28.0	816.9	23.2	49.8	66.2	90.8	114.3	4696.0	10511.0
31013202680000	-79.18950	42.0896	42.4	1368.3	24.4	54.7	73.2	100.1	125.6	4146.0	9692.0
31013202860000	-79.12950	42.0661	42.3	1356.1	24.5	55.0	73.4	100.4	126.0	4137.0	9679.0
31013202950000	-79.42855	42.1602	36.1	1173.5	23.1	46.4	67.2	90.6	113.1	4089.0	9603.0
31013202950000	-79.42860	42.1602	36.2	1175.6	23.1	52.0	69.0	94.6	118.9	4535.0	10278.0
31013202990000	-79.58530	42.1825	37.1	1161.4	24.2	54.0	71.4	97.8	122.9	4357.0	10015.0
31013203160000	-79.09300	42.4893	28.8	761.4	26.0	57.8	73.6	101.5	127.7	4512.0	10244.0
31013203910000	-79.32910	42.1878	38.0	1275.6	22.7	50.6	68.1	93.2	117.1	4497.0	10223.0
31013204020000	-79.49050	42.2667	31.8	1014.7	22.5	50.3	66.5	91.4	115.1	4752.0	10590.0
31013204060000	-79.31430	42.3566	30.0	963.2	21.8	48.9	64.7	88.9	112.0	4900.0	10797.0
31013204080000	-79.26326	42.2095	26.5	1114.3	15.7	30.8	47.5	63.5	79.6	5725.0	11870.0
31013207130000	-79.20750	42.1505	29.4	1211.3	16.8	37.5	52.8	72.1	91.2	5556.0	11659.0
31013207250000	-79.14270	42.1539	41.5	1295.1	25.1	56.3	74.6	102.2	128.2	4097.0	9615.0
31013207360000	-79.48760	42.2698	31.9	1021.4	22.4	50.3	66.5	91.3	115.0	4758.0	10598.0
31013207370000	-79.49350	42.2696	31.9	1022.6	22.4	50.2	66.4	91.2	114.9	4757.0	10597.0
31013207420000	-79.12200	42.4458	29.2	941.8	21.4	47.9	63.5	87.3	110.1	4979.0	10905.0
31013207480000	-79.16350	42.0447	44.8	1333.2	26.8	60.1	79.2	108.5	135.9	3801.0	9141.0
31013207520000	-79.56100	42.1870	38.0	1187.2	24.4	54.7	72.2	99.0	124.4	4306.0	9937.0
31013207530000	-79.54960	42.0446	42.3	1308.5	25.4	57.0	75.5	103.3	129.6	4040.0	9526.0
31013207590000	-79.20740	42.3357	35.6	1129.6	23.5	52.4	69.4	95.2	119.7	4486.0	10207.0
31013207600000	-79.20810	42.3296	36.0	1162.5	23.2	51.8	68.9	94.5	118.8	4508.0	10239.0
31013207610000	-79.07640	42.1311	42.5	1327.1	25.2	56.6	75.1	102.8	128.9	4054.0	9549.0
31013207630000	-79.47650	42.1916	35.3	1109.5	23.7	53.1	70.0	96.1	120.8	4481.0	10200.0
31013207670000	-79.55230	42.0121	44.2	1374.7	25.6	57.3	76.2	104.3	130.8	3959.0	9397.0
31013207720000	-79.14330	42.1483	40.7	1274.4	24.9	55.6	73.8	101.1	126.8	4147.0	9693.0

31013207730000	-79.48950	42.1830	35.5	1123.2	23.6	52.9	69.8	95.8	120.5	4493.0	10217.0
31013207750000	-79.50000	42.1787	36.6	1169.2	23.6	53.0	70.2	96.3	121.0	4447.0	10149.0
31013207760000	-79.49430	42.1807	36.2	1133.9	24.0	53.7	70.8	97.2	122.1	4420.0	10109.0
31013207770000	-79.54330	42.0461	42.4	1317.4	25.3	56.7	75.2	103.0	129.2	4045.0	9533.0
31013207780000	-79.45510	42.1708	37.2	1172.6	24.1	54.0	71.4	97.8	123.0	4374.0	10040.0
31013207790000	-79.71520	42.0018	44.1	1371.0	25.6	57.5	76.3	104.5	131.0	3963.0	9404.0
31013207840000	-79.12570	42.1572	40.8	1279.9	24.9	55.7	73.8	101.1	126.9	4156.0	9707.0
31013207890000	-79.56980	42.2068	36.4	1149.4	23.8	53.4	70.5	96.7	121.6	4429.0	10123.0
31013207920000	-79.48190	42.2691	31.9	1019.9	22.5	50.3	66.5	91.4	115.1	4757.0	10597.0
31013207950000	-79.16660	42.1315	38.3	1255.8	23.3	52.3	69.8	95.5	120.0	4419.0	10108.0
31013207990000	-79.21780	42.1568	44.1	1371.0	25.6	57.6	76.4	104.6	131.1	3973.0	9419.0
31013208000000	-79.11240	42.4115	32.9	1052.8	22.7	50.9	67.3	92.4	116.3	4693.0	10507.0
31013208030000	-79.20520	42.1581	37.5	1195.4	23.9	53.3	70.8	96.9	121.8	4379.0	10048.0
31013208040000	-79.55460	42.0479	41.7	1311.3	25.0	56.0	74.3	101.8	127.7	4115.0	9644.0
31013208110000	-79.06220	42.1237	42.4	1319.5	25.3	56.7	75.2	102.9	129.1	4046.0	9535.0
31013208150000	-79.24950	42.0667	41.5	1313.4	24.7	55.3	73.6	100.7	126.3	4138.0	9680.0
31013208230000	-79.53060	42.0413	44.1	1372.5	25.6	57.4	76.3	104.4	130.9	3959.0	9397.0
31013208260000	-79.36282	41.9997	44.3	1432.6	24.6	49.8	73.2	98.3	122.3	3567.0	8748.0
31013208260000	-79.36280	41.9997	44.5	1448.7	24.5	54.9	73.7	100.8	126.3	4074.0	9580.0
31013208330000	-79.54890	42.0496	42.2	1302.7	25.5	56.9	75.5	103.3	129.5	4031.0	9512.0
31013208340000	-79.09210	42.1361	39.9	1248.5	24.7	55.3	73.3	100.3	126.0	4200.0	9776.0
31013208350000	-79.56010	42.0474	41.5	1287.8	25.2	56.3	74.7	102.2	128.2	4088.0	9601.0
31013208360000	-79.55810	42.0515	42.3	1307.3	25.4	57.0	75.5	103.3	129.6	4040.0	9525.0
31013208390000	-79.40640	42.1574	25.4	830.0	19.7	42.4	57.6	79.1	99.9	5287.0	11317.0
31013208430000	-79.20740	42.3355	36.4	1150.3	23.8	53.4	70.6	96.7	121.6	4431.0	10125.0
31013208950000	-79.58120	42.0493	42.1	1292.7	25.6	58.2	76.2	104.5	131.1	4102.0	9624.0
31013209020000	-79.14650	42.1310	40.7	1271.3	24.9	55.9	74.0	101.3	127.2	4149.0	9697.0
31013209030000	-79.25970	42.0676	45.9	1329.8	27.7	61.9	81.4	111.4	139.6	3674.0	8929.0
31013209100000	-79.44920	42.1720	36.4	1149.1	23.8	53.3	70.5	96.7	121.6	4429.0	10122.0
31013209150000	-79.39910	42.0718	40.7	1274.1	24.9	55.8	73.9	101.3	127.1	4150.0	9699.0
31013209170000	-79.17160	42.1309	35.9	1245.4	21.6	48.4	65.3	89.4	112.5	4708.0	10527.0
31013209180000	-79.16780	42.1280	38.1	1239.0	23.5	52.5	70.0	95.8	120.4	4406.0	10089.0
31013209230000	-79.62770	42.1495	38.1	1194.5	24.3	54.5	72.1	98.8	124.1	4310.0	9945.0
31013209250000	-79.53820	42.0049	41.7	1353.0	24.2	54.1	72.4	99.0	124.2	4201.0	9777.0
31013209260000	-79.53050	42.0058	42.6	1381.1	24.3	54.5	72.9	99.7	125.1	4156.0	9707.0

31013209440000	-79.52330	42.0057	45.0	1399.3	25.7	57.7	76.7	105.0	131.6	3912.0	9321.0
31013209450000	-79.66220	42.0444	42.3	1308.5	25.4	57.0	75.5	103.3	129.6	4042.0	9529.0
31013209470000	-79.61130	42.0134	41.6	1300.0	25.1	56.1	74.5	101.9	127.9	4097.0	9616.0
31013209480000	-79.51140	42.0076	44.9	1386.8	25.9	57.9	77.0	105.3	132.0	3902.0	9306.0
31013209490000	-79.76050	42.0544	40.7	1272.8	24.9	55.9	74.0	101.3	127.2	4151.0	9700.0
31013209510000	-79.12990	42.0256	47.5	1469.4	26.2	58.7	78.3	107.0	134.1	3782.0	9110.0
31013209540000	-79.13200	42.1541	40.8	1279.3	24.9	55.7	73.8	101.1	126.9	4153.0	9703.0
31013209550000	-79.60410	42.0123	42.2	1303.9	25.5	57.0	75.5	103.4	129.7	4036.0	9520.0
31013209590000	-79.52160	42.2332	34.6	1097.3	23.3	52.3	69.0	94.7	119.2	4554.0	10306.0
31013209600000	-79.11160	42.3936	35.5	1077.8	24.5	55.1	72.1	98.9	124.4	4392.0	10067.0
31013209610000	-79.33820	42.3691	30.3	980.9	21.7	48.6	64.4	88.5	111.5	4909.0	10809.0
31013209660000	-79.25480	42.3338	34.6	1099.1	23.3	52.2	69.0	94.6	119.0	4554.0	10306.0
31013209700000	-79.14430	42.1585	41.7	1306.4	25.0	56.1	74.4	101.9	127.8	4108.0	9633.0
31013209710000	-79.70540	42.1310	37.1	1204.9	23.3	52.3	69.5	95.3	119.8	4464.0	10174.0
31013209720000	-79.14650	42.1428	30.3	1310.3	16.3	36.5	51.7	70.7	89.3	5616.0	11734.0
31013209730000	-79.50050	42.1935	35.6	1128.4	23.5	52.8	69.8	95.7	120.4	4500.0	10228.0
31013209770000	-79.64170	42.0409	43.2	1342.6	25.5	57.2	75.8	103.8	130.2	4002.0	9465.0
31013209820000	-79.51730	42.0065	45.8	1415.8	26.0	58.3	77.5	106.0	132.8	3873.0	9259.0
31013209850000	-79.73650	42.0119	40.7	1269.2	25.0	55.7	73.9	101.2	126.9	4141.0	9685.0
31013209860000	-79.62180	42.2651	32.8	1047.0	22.8	51.0	67.4	92.5	116.4	4687.0	10498.0
31013209870000	-79.52490	42.0161	44.0	1364.3	25.7	57.5	76.4	104.5	131.0	3948.0	9380.0
31013211010000	-79.29260	42.1975	27.5	903.1	20.5	44.2	59.8	82.1	103.6	5123.0	11099.0
31013211390000	-79.53050	42.0139	43.3	1350.3	25.4	56.9	75.6	103.5	129.8	4002.0	9467.0
31013211440000	-79.24670	42.5063	17.9	624.5	14.2	31.3	44.7	61.6	78.5	6139.0	12361.0
31013211460000	-79.25550	42.0662	40.9	1333.8	23.9	53.6	71.7	98.1	123.1	4257.0	9863.0
31013211540000	-79.16300	42.1742	42.9	1317.0	25.8	57.7	76.4	104.5	131.1	3980.0	9431.0
31013211560000	-79.54170	42.0841	27.6	912.0	20.4	45.1	60.5	83.2	105.0	5139.0	11122.0
31013211570000	-79.21980	42.3486	35.6	1130.8	23.5	52.7	69.7	95.6	120.2	4495.0	10220.0
31013211750000	-79.14990	42.1674	42.4	1322.8	25.3	56.7	75.2	102.9	129.1	4051.0	9544.0
31013211770000	-79.32870	42.3745	28.1	947.9	20.2	45.0	60.4	83.0	104.8	5156.0	11144.0
31013211890000	-79.56640	42.0458	42.3	1314.3	25.4	56.9	75.3	103.1	129.4	4045.0	9535.0
31013211900000	-79.39380	42.0463	42.4	1322.8	25.3	56.7	75.2	102.9	129.1	4050.0	9543.0
31013211910000	-79.58450	42.2417	33.0	1058.3	22.7	50.7	67.1	92.1	115.9	4691.0	10504.0
31013211960000	-79.36250	42.0122	33.2	1431.3	16.9	37.8	53.6	73.1	92.2	5458.0	11536.0
31013212000000	-79.15830	42.0885	39.9	1296.9	23.8	53.4	71.3	97.6	122.5	4304.0	9935.0

31013212010000	-79.53100	42.0011	42.4	1369.5	24.4	54.6	73.1	99.9	125.3	4143.0	9688.0
31013212070000	-79.14370	42.1660	41.4	1286.6	25.2	56.4	74.8	102.4	128.4	4089.0	9604.0
31013212080000	-79.47890	42.1601	38.1	1196.3	24.3	54.5	72.1	98.8	124.1	4312.0	9948.0
31013212090000	-79.55030	42.0034	40.9	1335.0	23.9	53.4	71.5	97.8	122.7	4252.0	9856.0
31013212100000	-79.55460	41.9995	43.2	1341.7	25.5	57.1	75.8	103.8	130.2	3998.0	9459.0
31013212140000	-79.13630	42.2187	40.5	1257.3	25.1	56.2	74.3	101.8	127.7	4140.0	9683.0
31013212150000	-79.55600	42.2209	36.5	1154.3	23.8	53.3	70.5	96.7	121.5	4436.0	10133.0
31013212200000	-79.53860	42.1751	38.0	1186.3	24.4	54.5	72.1	98.9	124.2	4301.0	9930.0
31013217670000	-79.53210	42.0099	41.2	1355.8	23.7	53.2	71.3	97.5	122.4	4272.0	9886.0
31013217930000	-79.30310	42.2939	31.9	1016.5	22.5	50.4	66.6	91.4	115.1	4755.0	10594.0
31013217940000	-79.51570	42.0170	45.4	1389.0	26.2	58.8	78.0	106.7	133.8	3846.0	9214.0
31013217970000	-79.33580	42.1373	40.9	1286.0	24.8	55.6	73.7	100.9	126.7	4159.0	9712.0
31013217980000	-79.34870	42.1464	39.8	1245.7	24.8	55.5	73.4	100.5	126.2	4201.0	9777.0
31013218030000	-79.31060	42.1651	40.7	1273.5	24.9	55.8	74.0	101.3	127.1	4151.0	9699.0
31013218140000	-79.31310	42.1821	32.3	1269.5	18.4	41.3	57.1	78.1	98.5	5261.0	11282.0
31013218180000	-79.15360	42.1708	35.5	1345.4	19.7	44.2	60.7	83.0	104.5	4983.0	10911.0
31013218200000	-79.20140	42.3324	33.2	1202.7	20.1	45.1	61.3	83.9	105.8	5000.0	10934.0
31013218220000	-79.19550	42.3357	38.0	1230.8	23.5	52.8	70.2	96.2	120.9	4408.0	10091.0
31013218260000	-79.21970	42.3339	37.4	1189.0	23.9	53.6	71.0	97.4	122.3	4382.0	10052.0
31013218270000	-79.20590	42.3228	38.1	1200.0	24.3	54.5	72.0	98.7	124.0	4318.0	9955.0
31013218570000	-79.26750	42.0738	41.5	1338.4	24.3	54.4	72.6	99.4	124.7	4191.0	9762.0
31013218770000	-79.12910	42.3734	32.4	1016.2	23.0	51.5	67.9	93.2	117.3	4669.0	10472.0
31013219150000	-79.55630	42.1590	38.0	1189.0	24.4	54.6	72.1	98.9	124.2	4304.0	9935.0
31013219550000	-79.30620	42.2903	23.6	1022.6	14.3	32.0	46.0	63.1	80.1	6035.0	12240.0
31013219590000	-79.59580	42.0828	38.3	1253.3	23.3	52.2	69.7	95.5	119.9	4415.0	10102.0
31013219760000	-79.54160	42.1091	39.3	1289.3	23.5	52.6	70.3	96.2	120.9	4369.0	10032.0
31013219920000	-79.48530	42.1231	32.5	1067.4	22.1	48.7	65.2	89.3	112.5	4765.0	10608.0
31013220160000	-79.44630	42.1212	30.1	968.0	21.8	48.2	64.1	88.1	111.0	4892.0	10786.0
31013220230000	-79.13220	42.3583	32.5	1061.0	22.1	49.3	65.6	90.0	113.4	4771.0	10617.0
31013220250000	-79.27280	42.3883	29.5	964.4	21.2	47.6	63.2	86.9	109.6	4989.0	10919.0
31013220370000	-79.60620	42.0822	29.5	1312.2	15.7	35.1	50.1	68.4	86.5	5731.0	11876.0
31013220630000	-79.54660	42.2646	34.8	1028.1	25.1	56.0	73.0	100.3	126.1	4352.0	10007.0
31013221010000	-79.63100	42.0430	47.5	1280.5	30.1	67.6	87.4	119.8	150.0	3429.0	8509.0
31013221030000	-79.63210	42.2179	34.4	1122.9	22.6	50.6	67.3	92.3	116.1	4645.0	10438.0
31013221330000	-79.24570	42.0630	41.5	1338.4	24.3	54.4	72.7	99.4	124.8	4193.0	9765.0

31013221370000	-79.24590	42.0630	41.5	1338.4	24.3	54.4	72.7	99.4	124.8	4193.0	9765.0
31013221400000	-79.57760	42.0773	38.3	1253.6	23.3	52.1	69.7	95.4	119.9	4414.0	10101.0
31013221450000	-79.57100	42.0801	40.9	1289.0	24.8	55.5	73.7	100.8	126.6	4162.0	9716.0
31013221510000	-79.25270	42.3767	31.0	991.5	22.2	49.6	65.6	90.1	113.5	4826.0	10694.0
31013221520000	-79.24040	42.0714	38.9	1352.7	22.1	49.6	67.0	91.7	115.2	4546.0	10295.0
31013221900000	-79.56790	42.0908	39.3	1296.0	23.4	52.3	70.1	95.9	120.4	4369.0	10032.0
31013222010000	-79.33140	42.2878	36.5	1076.6	25.6	57.4	74.7	102.6	128.9	4237.0	9833.0
31013222040000	-79.56060	42.0907	43.1	1331.7	25.6	57.7	76.2	104.4	130.9	4018.0	9491.0
31013222380000	-79.26990	42.3528	34.4	1043.9	24.4	54.6	71.4	98.1	123.4	4444.0	10145.0
31013222650000	-79.24350	42.0742	34.0	1362.8	18.4	41.2	57.3	78.3	98.6	5213.0	11220.0
31013222740000	-79.31250	42.2659	35.6	1049.1	25.4	56.9	74.0	101.6	127.7	4293.0	9918.0
31013222770000	-79.61770	42.0461	30.0	958.6	21.9	46.6	63.7	87.0	109.4	4710.0	10531.0
31013222830000	-79.54610	42.1057	43.6	1282.3	27.0	60.4	79.3	108.6	136.2	3825.0	9180.0
31013222840000	-79.21020	42.0904	42.9	1364.9	24.9	55.7	74.3	101.6	127.5	4079.0	9587.0
31013222940000	-79.53870	42.1042	39.3	1292.4	23.4	52.6	70.3	96.2	120.8	4373.0	10039.0
31013223120000	-79.57690	42.0827	40.6	1266.8	25.0	55.9	74.1	101.4	127.3	4144.0	9689.0
31013223240000	-79.20780	42.0940	43.0	1369.5	24.8	55.7	74.2	101.6	127.4	4087.0	9600.0
31013223390000	-79.13480	42.5498	21.2	625.1	19.5	43.8	57.8	79.8	101.1	5489.0	11575.0
31013223750000	-79.31504	42.2579	39.0	1053.4	28.5	55.3	78.6	106.2	132.2	3264.0	8217.0
31013223750000	-79.31500	42.2579	39.0	1055.2	28.5	63.8	81.8	112.4	141.0	3857.0	9232.0
31013223760000	-79.32920	42.2595	38.4	1050.7	28.0	62.7	80.6	110.7	139.0	3923.0	9339.0
31013224040000	-79.58040	42.0874	40.4	1250.6	25.1	56.3	74.4	101.9	127.9	4134.0	9674.0
31013224150000	-79.53400	42.0527	42.0	1331.7	24.8	55.5	73.9	101.0	126.8	4120.0	9652.0
31013224620000	-79.26760	42.0690	43.2	1338.7	25.5	57.1	75.8	103.7	130.1	3991.0	9449.0
31013224980000	-79.41714	42.1438	65.4	2312.8	24.4	55.4	77.5	105.2	131.3	3574.0	8760.0
31013224980000	-79.41710	42.1438	65.4	2312.8	24.4	55.8	77.6	105.4	131.6	3619.0	8837.0
31013225180000	-79.54110	42.3518	20.8	709.3	16.7	37.2	51.1	70.4	89.3	5804.0	11965.0
31013225190000	-79.25420	42.2346	41.2	1179.0	27.3	62.3	80.2	110.1	138.2	3974.0	9422.0
31013225250000	-79.08380	42.5361	18.9	654.7	15.1	33.8	47.3	65.3	83.0	6022.0	12224.0
31013225310000	-79.39188	42.1979	68.1	2232.7	26.5	59.9	83.1	112.9	140.8	3239.0	8172.0
31013225310000	-79.39190	42.1979	68.1	2232.7	26.5	59.5	83.0	112.7	140.5	3204.0	8107.0
31013225470000	-79.51100	42.2996	26.1	960.4	17.8	39.8	54.5	74.9	94.8	5518.0	11612.0
31013225670000	-79.20530	42.1082	38.5	1270.7	23.2	51.9	69.5	95.1	119.5	4428.0	10120.0
31013225830000	-79.24880	42.1874	33.5	1143.6	21.5	47.9	64.4	88.2	111.1	4811.0	10673.0
31013225880000	-79.39019	42.2299	66.5	2170.2	26.5	59.8	82.8	112.5	140.4	3260.0	8208.0

31013225880000	-79.39020	42.2299	66.5	2159.8	26.6	60.2	83.1	112.9	140.9	3273.0	8233.0
31013225920000	-79.48610	42.1064	25.4	868.1	18.8	40.5	55.6	76.3	96.4	5380.0	11437.0
31013225960000	-79.53162	42.3383	52.0	1793.7	24.0	59.5	75.4	103.9	130.8	4598.0	10370.0
31013225960000	-79.53160	42.3383	52.0	1789.5	24.0	58.4	75.3	103.5	130.1	4415.0	10101.0
31013226150000	-79.54480	42.0551	44.9	1343.6	26.7	60.0	79.1	108.3	135.7	3817.0	9168.0
31013226510000	-79.56330	42.0951	42.3	1310.6	25.4	57.0	75.4	103.3	129.5	4044.0	9533.0
31013226710000	-79.57460	42.0903	39.1	1310.6	23.0	51.6	69.2	94.7	118.9	4435.0	10131.0
31013226730000	-79.54800	42.1204	32.8	1260.0	18.9	42.3	58.3	79.7	100.5	5175.0	11169.0
31013233870000	-79.21000	42.0108	42.6	1426.5	23.5	52.7	71.0	97.1	121.8	4248.0	9849.0
31013234100000	-79.41750	42.0603	40.1	1312.2	23.7	53.0	70.9	97.0	121.8	4310.0	9944.0
31013234420100	-79.54920	42.0657	30.4	947.0	22.6	48.5	64.9	89.0	112.1	4761.0	10603.0
31013234430000	-79.41120	42.3067	35.1	1095.5	23.9	53.5	70.4	96.6	121.5	4479.0	10196.0
31013234480000	-79.41990	42.0663	38.6	1330.8	22.3	49.9	67.3	92.1	115.7	4532.0	10275.0
31013234930000	-79.24710	42.3381	36.2	1138.4	23.9	53.7	70.8	97.1	122.1	4427.0	10119.0
31013234960000	-79.24480	42.3326	34.4	1124.1	22.6	50.5	67.2	92.2	116.0	4644.0	10436.0
31013235760000	-79.19410	42.0166	52.1	1434.1	30.0	67.4	88.3	120.9	151.2	3272.0	8230.0
31013235830000	-79.13950	42.1021	45.3	1283.2	28.3	63.4	82.8	113.4	142.1	3649.0	8887.0
31013240800000	-79.53760	42.2923	45.4	990.3	36.8	72.7	98.8	134.3	167.1	2374.0	6478.0
31013240820000	-79.09347	42.5091	18.5	741.3	12.8	24.6	38.8	52.3	66.2	6389.0	12644.0
31013241270000	-79.54530	42.0186	46.6	1347.2	27.9	62.6	82.2	112.5	140.9	3634.0	8862.0
31013241840000	-79.28020	42.0486	42.0	1379.5	23.9	53.6	71.9	98.3	123.4	4221.0	9808.0
31013241850000	-79.13680	42.0005	32.8	1396.3	17.0	38.1	53.8	73.4	92.6	5447.0	11522.0
31013241860000	-79.29130	42.0467	39.3	1341.1	22.6	50.5	68.2	93.3	117.2	4466.0	10177.0
31013242260000	-79.24660	42.0030	33.0	1469.4	16.4	36.7	52.3	71.3	89.9	5543.0	11644.0
31013242530000	-79.22470	42.0075	48.9	1443.8	27.6	61.8	81.9	112.0	140.2	3590.0	8787.0
31013242550000	-79.14550	42.0222	33.0	1414.6	17.0	38.0	53.7	73.3	92.4	5454.0	11531.0
31013242660000	-79.12540	42.0974	31.0	1339.9	16.4	36.8	52.1	71.2	89.9	5586.0	11698.0
31013243100000	-79.12560	42.0466	48.2	1438.7	27.3	61.1	81.0	110.8	138.7	3642.0	8876.0
31013243110000	-79.62700	42.1207	41.0	1204.0	26.6	59.5	77.8	106.7	133.9	3969.0	9412.0
31013243120000	-79.64170	42.1443	38.7	1200.3	24.8	55.5	73.2	100.3	126.0	4242.0	9841.0
31013243360000	-79.11405	42.4708	22.6	868.7	15.6	30.9	46.4	62.7	79.1	5824.0	11989.0
31013243380000	-79.09309	42.4774	29.5	886.7	23.1	45.7	64.5	87.5	109.7	4383.0	10053.0
31013243480000	-79.10780	42.4869	20.0	805.6	13.7	26.2	40.9	55.1	69.6	6235.0	12470.0
31013243540000	-79.12231	42.5110	18.1	716.3	12.8	24.5	38.6	52.0	66.0	6399.0	12655.0
31013243550000	-79.12971	42.5071	18.7	716.9	13.6	25.9	40.4	54.5	69.0	6266.0	12506.0

31013243810001	-79.12230	42.4637	25.9	903.7	18.7	41.8	56.6	77.8	98.4	5421.0	11489.0
31013243830000	-79.09250	42.4949	25.1	776.0	20.8	39.7	57.4	77.7	97.5	4878.0	10767.0
31013244000000	-79.21480	42.0137	33.3	1439.6	16.9	37.8	53.5	73.0	92.1	5461.0	11541.0
31013244090000	-79.59720	42.3030	24.6	817.2	19.1	42.8	57.4	79.0	100.0	5407.0	11472.0
31013244130000	-79.11490	42.1162	46.9	1373.4	27.6	61.9	81.6	111.6	139.8	3657.0	8901.0
31013244140000	-79.46950	42.0502	39.5	1305.8	23.3	52.2	70.0	95.8	120.3	4377.0	10045.0
31013244150000	-79.11770	42.1023	31.7	1397.5	16.2	36.4	51.8	70.7	89.2	5600.0	11715.0
31013244160000	-79.12150	42.0999	47.3	1354.8	28.3	63.3	83.1	113.7	142.4	3582.0	8773.0
31013244430000	-79.18240	42.0136	48.1	1382.0	28.3	63.5	83.4	114.2	143.0	3544.0	8709.0
31013244780001	-79.41820	42.2810	28.3	1083.3	17.8	40.0	55.1	75.5	95.4	5453.0	11529.0
31013244790000	-79.41410	42.2775	28.2	1074.1	17.9	40.0	55.1	75.6	95.5	5449.0	11525.0
31013244840001	-79.35010	42.3468	27.9	1052.5	18.0	40.3	55.3	75.9	95.9	5447.0	11523.0
31013244850001	-79.35630	42.3459	27.6	1033.6	18.0	40.4	55.5	76.1	96.2	5442.0	11517.0
31013244920000	-79.16230	42.1499	44.0	1314.9	26.6	59.7	78.6	107.7	135.0	3852.0	9225.0
31013245020000	-79.10760	42.1037	46.7	1404.5	26.9	60.2	79.8	109.1	136.7	3736.0	9034.0
31013245030000	-79.11090	42.1008	46.2	1405.1	26.5	59.3	78.7	107.7	134.9	3796.0	9132.0
31013245040000	-79.09830	42.4725	26.3	820.8	21.1	47.2	62.3	85.7	108.2	5118.0	11093.0
31013245080000	-79.17140	42.3593	34.2	1026.6	24.6	55.0	71.8	98.6	124.0	4432.0	10127.0
31013245090000	-79.16200	42.3532	35.1	1091.8	23.9	53.5	70.5	96.7	121.6	4474.0	10189.0
31013246470000	-79.16850	42.0213	30.1	1357.0	15.5	34.8	49.8	68.0	85.9	5738.0	11885.0
31013246580000	-79.25030	42.0002	47.0	1473.4	25.8	57.8	77.2	105.5	132.2	3843.0	9209.0
31013246650000	-79.15180	42.1498	43.6	1322.8	26.1	58.5	77.4	105.9	132.8	3921.0	9336.0
31013246680000	-79.24280	42.0524	44.7	1370.7	26.0	58.4	77.4	105.9	132.7	3895.0	9293.0
31013246690000	-79.11660	42.0987	45.8	1369.2	26.9	60.1	79.5	108.7	136.2	3766.0	9082.0
31013246700000	-79.22790	42.0630	36.9	1322.2	21.1	47.3	64.2	87.8	110.5	4747.0	10583.0
31013247030000	-79.12800	42.0943	43.2	1293.9	26.4	59.1	77.9	106.7	133.8	3897.0	9297.0
31013247040000	-79.23370	42.0197	39.2	1427.1	21.2	47.5	64.9	88.6	111.4	4657.0	10455.0
31013247320001	-79.06810	42.5192	23.0	708.4	19.8	44.3	58.7	80.9	102.4	5391.0	11451.0
31013247440000	-79.11510	42.5192	22.8	694.3	19.9	44.5	58.9	81.2	102.8	5389.0	11449.0
31013247680000	-79.22520	42.0228	40.3	1427.7	22.0	49.2	66.9	91.4	114.9	4520.0	10256.0
31013247690000	-79.11760	42.1130	45.7	1359.1	27.0	60.4	79.7	109.1	136.7	3760.0	9072.0
31013247710000	-79.13080	42.1059	45.3	1282.0	28.3	63.3	82.7	113.2	141.9	3639.0	8871.0
31013247830000	-79.46950	42.0597	41.0	1295.1	24.7	55.4	73.5	100.7	126.4	4167.0	9725.0
31013247840000	-79.13010	42.0983	45.4	1292.4	28.2	63.1	82.5	113.0	141.5	3650.0	8889.0
31013247930000	-79.09520	42.0835	46.8	1365.5	27.7	62.0	81.7	111.8	140.0	3645.0	8881.0

31013247950000	-79.42020	42.4050	22.1	686.7	19.2	42.9	57.1	78.7	99.7	5494.0	11581.0
31013248010000	-79.31590	42.0338	59.6	1360.9	37.2	83.3	106.4	145.8	182.0	2535.0	6814.0
31013248020000	-79.18930	42.0809	44.7	1324.1	26.9	60.3	79.5	108.8	136.3	3794.0	9130.0
31013248040000	-79.22620	42.1924	41.2	1225.9	26.3	58.9	77.3	105.9	132.8	3981.0	9433.0
31013248230000	-79.11800	42.5287	22.6	677.3	20.0	44.9	59.2	81.6	103.3	5387.0	11446.0
31013248390000	-79.13840	42.5146	22.5	673.6	20.1	44.9	59.2	81.6	103.3	5386.0	11444.0
31013248670000	-79.17770	42.2628	31.1	1304.5	17.0	38.0	53.4	73.0	92.2	5499.0	11588.0
31013248680000	-79.14540	42.4974	22.8	690.7	19.9	44.6	58.9	81.3	102.8	5388.0	11447.0
31013248700001	-79.15720	42.0909	48.6	1280.8	30.9	69.0	89.4	122.5	153.3	3293.0	8268.0
31013248720002	-79.32210	42.4096	24.8	831.2	19.1	42.7	57.4	79.0	99.9	5413.0	11479.0
31013248730001	-79.14200	42.3966	27.5	1026.0	18.1	40.5	55.5	76.1	96.2	5440.0	11514.0
31013248990000	-79.21550	42.0559	31.2	1309.7	16.9	37.9	53.4	72.9	92.1	5500.0	11589.0
31013249010001	-79.23440	42.1273	30.5	1257.3	17.1	38.2	53.7	73.3	92.6	5486.0	11572.0
31013249200000	-79.45270	42.0766	41.5	1288.7	25.2	56.5	74.8	102.4	128.5	4095.0	9612.0
31013249340002	-79.33400	42.4134	20.1	802.2	13.8	30.9	44.4	61.1	77.9	6150.0	12373.0
31013249460000	-79.21860	42.3751	33.1	1112.5	21.7	48.6	65.0	89.1	112.2	4800.0	10658.0
31013249590000	-79.13490	42.1036	44.0	1271.0	27.6	61.5	80.7	110.5	138.5	3752.0	9059.0
31013249760000	-79.24970	42.0284	45.4	1388.1	26.3	58.8	78.0	106.8	133.8	3843.0	9210.0
31013249810000	-79.11560	42.0835	47.0	1332.6	28.5	63.9	83.6	114.5	143.4	3564.0	8743.0
31013250090000	-79.10220	42.0966	47.5	1418.8	27.1	60.8	80.5	110.1	137.9	3691.0	8958.0
31013250100000	-79.07900	42.0900	48.5	1456.3	27.1	60.7	80.6	110.2	138.0	3659.0	8904.0
31013250290000	-79.10470	42.0932	47.8	1397.2	27.8	62.2	82.0	112.2	140.5	3614.0	8828.0
31013250300000	-79.50460	42.2285	38.7	1068.9	27.8	62.2	80.1	110.0	138.1	3937.0	9362.0
31013250460000	-79.50150	42.2041	40.5	1169.2	27.0	60.5	78.7	108.0	135.5	3951.0	9384.0
31013250550000	-79.23380	42.1883	40.9	1245.7	25.6	57.5	75.7	103.8	130.2	4068.0	9571.0
31013250610000	-79.29280	42.2617	28.2	1072.6	17.9	39.9	55.1	75.5	95.4	5448.0	11524.0
31013250620000	-79.28900	42.2581	28.5	1100.3	17.8	39.8	54.9	75.3	95.2	5456.0	11533.0
31013250630000	-79.13700	42.4060	27.7	1037.8	18.0	40.5	55.5	76.2	96.3	5447.0	11522.0
31013250640000	-79.14430	42.4076	28.0	1061.6	17.9	40.2	55.2	75.8	95.7	5447.0	11523.0
31013250650000	-79.15030	42.4065	27.7	1036.0	18.0	40.3	55.4	76.0	96.1	5442.0	11516.0
31013250930000	-79.21200	42.4661	24.6	813.5	19.2	42.9	57.5	79.2	100.2	5408.0	11472.0
31013250940000	-79.19950	42.4600	25.0	840.0	19.0	42.7	57.3	78.9	99.8	5416.0	11483.0
31013250950000	-79.20710	42.4629	24.7	819.6	19.1	42.7	57.4	79.0	99.9	5407.0	11472.0
31013251060000	-79.27750	42.2686	29.4	1164.3	17.5	39.2	54.5	74.6	94.2	5468.0	11549.0
31013251070000	-79.26960	42.2696	29.5	1172.0	17.5	39.2	54.4	74.5	94.2	5472.0	11554.0

31013251270000	-79.24900	42.0389	32.4	1321.3	17.7	39.6	55.4	75.7	95.4	5348.0	11395.0
31013251280000	-79.19950	42.4644	24.6	816.0	19.1	42.9	57.5	79.2	100.1	5408.0	11473.0
31013251430000	-79.14320	42.4536	26.1	922.9	18.6	41.6	56.4	77.6	98.1	5425.0	11495.0
31013251440001	-79.15130	42.0959	38.2	1290.5	22.6	50.6	68.0	93.1	117.0	4512.0	10244.0
31013251480000	-79.14990	42.0890	48.7	1289.9	30.8	69.0	89.3	122.3	153.1	3307.0	8293.0
31013251590000	-79.12160	42.5034	23.7	754.1	19.5	43.7	58.2	80.2	101.5	5399.0	11462.0
31013251710000	-79.14870	42.4582	25.6	884.8	18.8	42.0	56.8	78.1	98.7	5418.0	11485.0
31013251720001	-79.15410	42.4591	25.4	870.5	18.8	42.2	56.9	78.3	99.1	5417.0	11484.0
31013251730000	-79.16310	42.4596	25.2	854.1	18.9	42.3	57.0	78.5	99.2	5413.0	11479.0
31013251740000	-79.14430	42.4619	25.4	869.6	18.8	42.2	56.9	78.3	99.1	5416.0	11482.0
31013251750000	-79.13210	42.5210	22.7	686.7	20.0	44.8	59.1	81.5	103.1	5392.0	11451.0
31013251770000	-79.15490	42.4264	27.4	1013.8	18.1	40.6	55.6	76.4	96.5	5439.0	11513.0
31013252570000	-79.60660	42.2363	40.1	1135.1	27.4	61.6	79.7	109.4	137.3	3937.0	9362.0
31013252580000	-79.20460	42.4471	25.1	849.2	19.0	42.4	57.1	78.6	99.4	5413.0	11478.0
31013252800000	-79.16290	42.4467	25.9	907.1	18.6	40.3	55.4	76.0	96.0	5408.0	11473.0
31013252840000	-79.12020	42.5178	22.8	693.7	19.9	44.6	58.9	81.2	102.8	5389.0	11448.0
31013252930000	-79.30230	42.1721	39.8	1332.0	23.1	51.8	69.6	95.2	119.5	4399.0	10077.0
31013252950000	-79.30600	42.1486	34.9	1252.4	20.7	46.3	62.9	86.1	108.4	4862.0	10744.0
31013252980000	-79.29860	42.1877	38.8	1251.8	23.8	53.3	70.9	97.1	122.0	4344.0	9995.0
31013254680000	-79.23280	42.1839	39.7	1233.8	24.9	55.7	73.7	100.9	126.7	4195.0	9767.0
31013254690000	-79.22380	42.1839	41.6	1210.1	26.9	59.9	78.6	107.6	135.0	3894.0	9292.0
31013254890000	-79.42820	42.3441	34.7	980.9	26.2	58.8	75.7	104.1	130.9	4250.0	9853.0
31013255320000	-79.22030	42.1912	43.2	1252.7	27.3	61.3	80.1	109.8	137.7	3809.0	9153.0
31013256370001	-79.43740	42.3462	36.6	1001.0	27.6	62.1	79.5	109.2	137.2	4045.0	9533.0
31013257100000	-79.20440	42.4545	20.5	846.1	13.6	30.6	44.1	60.7	77.3	6161.0	12386.0
31013257740001	-79.23480	42.1530	33.2	1278.9	18.9	42.4	58.5	80.0	100.8	5157.0	11145.0
31013275410000	-79.22840	42.1822	41.0	1241.5	25.8	57.9	76.1	104.3	130.9	4050.0	9542.0
31013275430000	-79.73010	42.0072	51.1	1302.1	32.4	72.3	93.3	127.9	159.9	3098.0	7912.0
31013275460000	-79.15120	42.4118	28.3	1038.2	18.6	41.6	56.8	77.9	98.4	5358.0	11408.0
31013275500000	-79.23480	42.1801	43.5	1218.0	28.4	63.5	82.5	113.1	141.8	3699.0	8971.0
31013551730000	-79.18760	42.5045	19.3	644.7	16.0	35.7	49.3	68.0	86.4	5920.0	12105.0
31015004430000	-76.53773	42.1986	137.3	3346.7	38.3	76.6	123.2	165.5	202.4	1643.0	3972.0
31015004430000	-76.53770	42.1986	137.3	3369.0	38.1	79.4	125.8	166.5	204.2	1583.0	4173.0
31015041480000	-76.58300	42.1882	31.6	1036.6	21.8	44.0	61.6	83.8	105.2	4828.0	10697.0
31015048630000	-76.77830	42.2524	29.5	1009.2	20.4	41.1	58.1	79.0	99.3	5077.0	11038.0

31015103350000	-76.65865	42.1691	92.5	3234.5	25.8	51.2	85.1	113.7	138.6	2718.0	6992.0
31015103350000	-76.65870	42.1691	92.5	3234.2	25.8	53.7	86.8	113.2	139.1	2694.0	7344.0
31015119310000	-76.59370	42.0749	43.8	1297.2	26.8	55.7	76.5	103.8	129.6	3839.0	9203.0
31015119390000	-76.61740	42.2058	34.9	1165.6	22.3	45.3	63.7	86.4	108.3	4653.0	10449.0
31015173180000	-76.77229	42.0829	32.8	905.9	26.3	46.1	81.5	105.7	128.3	3024.0	7264.0
31015173180000	-76.77230	42.0829	33.1	922.0	26.1	54.0	72.0	98.3	123.3	4321.0	9961.0
31015216960000	-76.61000	42.1761	42.3	1092.4	30.5	58.1	82.2	110.8	137.7	3227.0	8149.0
31015217010000	-76.59490	42.1777	35.7	1136.6	23.5	47.0	66.0	89.5	112.1	4450.0	10153.0
31015228260000	-76.77380	42.2728	82.6	2852.0	25.8	50.9	83.6	111.1	135.9	2825.0	7257.0
31015228260000	-76.77380	42.2728	82.6	2848.4	25.8	54.5	83.6	111.1	137.2	2899.0	7751.0
31015228270000	-76.77471	42.2841	83.9	2875.8	26.0	51.5	84.3	112.0	137.0	2790.0	7197.0
31015228270000	-76.77471	42.2841	37.7	1077.2	26.6	46.7	76.9	102.8	125.6	3124.0	7609.0
31015228270000	-76.77470	42.2841	83.8	2873.4	26.1	56.8	84.4	112.9	139.7	3110.0	7935.0
31015228310000	-76.95820	42.1868	62.1	1981.8	26.8	47.1	80.3	106.0	129.0	2983.0	7333.0
31015228310000	-76.95820	42.1868	62.1	1975.1	26.9	55.7	81.1	108.8	134.9	3287.0	8257.0
31015228380000	-76.65127	42.1754	90.2	3053.2	26.6	52.3	86.7	116.0	141.5	2640.0	6785.0
31015228380000	-76.65130	42.1754	90.6	3161.4	25.8	54.0	85.7	114.6	140.6	2688.0	7328.0
31015228390000	-76.91613	42.2853	84.3	2856.6	26.4	52.3	85.2	113.1	138.4	2748.0	7144.0
31015228390000	-76.91613	42.2853	36.7	1176.8	23.6	41.3	69.1	91.6	111.9	3573.0	8722.0
31015228390000	-76.91610	42.2853	84.5	2885.9	26.2	58.4	84.8	113.8	141.0	3202.0	8103.0
31015228390000	-76.91610	42.2853	36.7	1174.4	23.6	41.9	64.7	86.0	106.6	4130.0	9667.0
31015228530000	-76.92088	42.1953	86.4	2951.1	26.2	51.7	85.2	113.6	138.8	2746.0	7019.0
31015228530000	-76.92090	42.1953	86.4	2948.6	26.3	54.8	85.3	113.2	139.5	2665.0	7471.0
31015228570000	-76.79134	42.2727	92.3	2793.8	29.8	58.6	95.2	127.1	155.4	2295.0	6038.0
31015228570000	-76.79134	42.2727	38.3	1085.7	27.0	47.4	78.0	104.5	127.6	3069.0	7453.0
31015228570000	-76.79130	42.2727	92.3	2791.4	29.9	66.3	95.1	127.8	158.3	2687.0	7121.0
31015228570000	-76.79130	42.2727	38.3	1083.9	27.0	47.5	72.1	96.0	118.9	3567.0	8749.0
31015228620000	-76.81321	42.2683	87.0	2843.8	27.4	54.1	88.4	117.7	143.9	2610.0	6732.0
31015228620000	-76.81320	42.2683	87.1	2850.8	27.4	57.1	88.1	117.1	144.4	2546.0	7205.0
31015228800000	-76.81384	42.2790	81.7	2775.8	26.2	51.5	84.3	112.2	137.2	2790.0	7165.0
31015228800000	-76.81380	42.2790	81.7	2780.1	26.2	54.6	84.1	111.7	137.9	2830.0	7659.0
31015228800100	-76.81387	42.2790	81.5	2733.4	26.5	52.0	85.1	113.3	138.5	2755.0	7069.0
31015228800100	-76.81390	42.2790	81.6	2753.6	26.4	54.9	84.5	112.3	138.6	2794.0	7607.0
31015228890000	-76.79375	42.2832	85.1	2899.9	26.2	51.9	85.0	113.0	138.2	2757.0	7121.0
31015228890000	-76.79380	42.2832	85.1	2895.6	26.3	55.3	85.1	113.1	139.5	2729.0	7564.0

31015228890100	-76.79375	42.2832	81.6	2763.9	26.3	51.6	84.6	112.5	137.6	2780.0	7139.0
31015228890100	-76.79380	42.2832	81.7	2776.1	26.2	54.6	84.1	111.8	137.9	2804.0	7636.0
31015228900000	-76.89200	42.2865	84.9	2861.2	26.5	52.6	85.7	113.8	139.3	2726.0	7081.0
31015228900000	-76.89200	42.2865	88.3	2663.0	29.8	58.3	94.4	125.8	154.0	2353.0	6148.0
31015228900000	-76.89200	42.2865	85.1	2901.1	26.2	55.2	85.0	113.0	139.3	2733.0	7571.0
31015228900000	-76.89200	42.2865	88.3	2660.6	29.8	60.9	93.7	124.5	153.4	2375.0	6631.0
31015228910000	-76.93854	42.2380	90.5	3146.5	25.9	51.8	84.7	112.3	137.5	2770.0	7203.0
31015228910000	-76.93850	42.2380	90.5	3144.0	25.9	54.2	86.0	114.3	140.3	2682.0	7334.0
31015228990000	-76.68675	42.1604	91.9	3208.6	25.8	51.1	85.0	113.7	138.6	2718.0	6978.0
31015228990000	-76.68680	42.1604	91.8	3207.7	25.8	54.1	86.2	115.2	141.3	2688.0	7276.0
31015228990100	-76.68675	42.1604	90.4	3112.0	26.2	51.5	85.7	114.7	139.8	2685.0	6882.0
31015228990100	-76.68680	42.1604	90.6	3156.5	25.8	53.9	86.0	113.6	139.6	2696.0	7367.0
31015229010000	-76.95672	42.2714	90.6	2891.6	28.2	56.1	90.9	120.7	147.8	2510.0	6557.0
31015229010000	-76.95670	42.2714	90.6	2884.9	28.3	58.8	90.9	120.8	148.9	2460.0	6890.0
31015229020000	-76.86908	42.2526	85.8	2926.7	26.2	51.9	85.1	113.1	138.4	2753.0	7103.0
31015229020000	-76.86910	42.2526	85.7	2924.9	26.2	54.5	85.1	112.8	139.0	2679.0	7469.0
31015229020100	-76.86908	42.2526	86.4	2950.5	26.2	52.0	85.2	113.3	138.6	2746.0	7094.0
31015229020100	-76.86910	42.2526	86.5	2965.1	26.1	54.5	85.0	112.8	138.9	2679.0	7487.0
31015229100000	-76.85842	42.2786	90.3	2832.2	28.7	56.7	92.1	122.6	150.0	2442.0	6387.0
31015229100000	-76.85840	42.2786	90.4	2841.4	28.6	60.3	91.8	122.3	150.8	2403.0	6916.0
31015229110000	-76.69267	42.1471	101.1	3159.6	29.2	57.4	95.0	127.7	155.7	2213.0	5899.0
31015229110000	-76.69270	42.1471	101.3	3205.6	28.8	61.5	94.5	125.7	154.9	2333.0	6654.0
31015229180000	-76.88438	42.2073	86.6	2865.7	27.1	53.1	87.4	116.7	142.5	2639.0	6765.0
31015229180000	-76.88440	42.2073	86.6	2865.4	27.1	56.2	87.2	115.8	142.7	2589.0	7260.0
31015229180100	-76.88438	42.2073	87.1	2970.6	26.3	51.9	85.4	113.9	139.1	2737.0	7000.0
31015229180100	-76.88440	42.2073	87.1	2980.3	26.2	55.0	85.4	113.3	139.6	2662.0	7486.0
31015229190000	-76.92014	42.2374	83.3	3005.0	24.7	49.2	81.0	107.3	131.3	2951.0	7608.0
31015229190000	-76.92010	42.2374	83.5	3048.6	24.4	50.9	80.6	106.8	131.4	2954.0	7944.0
31015229190100	-76.92014	42.2374	101.9	3075.1	30.2	60.3	97.7	130.1	159.2	2181.0	5886.0
31015229190100	-76.92010	42.2374	102.2	3153.5	29.6	62.1	96.7	131.7	161.3	2276.0	6168.0
31015229240000	-76.75087	42.2690	87.1	2988.0	26.2	52.0	85.1	113.1	138.3	2751.0	7116.0
31015229240000	-76.75090	42.2690	87.3	3031.9	25.8	54.1	84.5	112.1	138.1	2701.0	7555.0
31015229240100	-76.75087	42.2690	83.8	2872.7	26.1	51.4	84.4	112.2	137.2	2788.0	7173.0
31015229240100	-76.75090	42.2690	83.9	2891.3	25.9	53.5	83.9	111.1	136.8	2754.0	7587.0
31015229330000	-76.66216	42.1587	103.3	3151.0	29.9	59.0	97.3	130.7	159.4	2151.0	5710.0

31015229330000	-76.66220	42.1587	103.5	3207.1	29.5	61.8	97.3	130.9	160.4	2277.0	6173.0
31015229600000	-76.90649	42.2446	88.3	2991.6	26.5	52.7	86.2	114.5	140.0	2705.0	7011.0
31015229600000	-76.90650	42.2446	88.3	3005.0	26.4	55.0	86.1	114.1	140.5	2643.0	7362.0
31015229750000	-76.88994	42.2386	94.7	2928.5	29.3	57.9	94.1	125.6	153.5	2339.0	6160.0
31015229750000	-76.88990	42.2386	94.9	2986.1	28.8	60.0	93.1	123.6	152.2	2387.0	6670.0
31015229790000	-76.72390	42.1986	91.0	2970.3	27.6	54.3	89.4	119.4	145.8	2528.0	6550.0
31015229790000	-76.72390	42.1986	91.0	2983.1	27.5	57.2	89.2	118.3	145.7	2530.0	7034.0
31015230170000	-76.85882	42.2719	75.5	2655.4	25.0	48.9	80.5	106.9	130.7	2978.0	7599.0
31015230170000	-76.85882	42.2719	49.4	1802.3	22.4	39.3	67.6	88.6	107.9	3743.0	9045.0
31015230170000	-76.85880	42.2719	75.5	2654.8	25.0	52.9	80.2	106.8	132.1	3254.0	8197.0
31015230230000	-76.61182	42.1698	102.4	3042.2	30.7	60.3	99.0	133.0	162.3	2102.0	5567.0
31015230230000	-76.61182	42.1698	83.5	2922.4	25.5	49.8	82.9	111.0	135.2	2854.0	7177.0
31015230230000	-76.61182	42.1698	54.9	1983.9	23.2	40.6	70.7	93.4	113.2	3540.0	8530.0
31015230230000	-76.61180	42.1698	103.5	4402.8	21.5	49.2	75.9	100.7	124.5	3569.0	8883.0
31015230280000	-76.90983	42.1892	76.3	2810.9	24.0	46.7	77.9	103.8	126.5	3114.0	7831.0
31015230280000	-76.90983	42.1892	50.7	1880.6	22.2	38.9	67.5	88.8	107.9	3754.0	9008.0
31015230280000	-76.90980	42.1892	76.3	2810.9	24.0	51.3	77.9	103.7	128.3	3423.0	8499.0
31015230760000	-76.92074	42.0245	100.8	3453.1	26.6	52.6	88.9	119.5	145.3	2457.0	6487.0
31015230760000	-76.92074	42.0245	78.2	2396.6	28.9	50.9	92.5	118.7	143.6	2567.0	6238.0
31015230760000	-76.92070	42.0245	100.9	3503.4	26.2	56.0	89.1	126.4	153.4	2575.0	6642.0
31015230970000	-76.92678	42.0547	103.4	3352.2	28.2	55.6	92.9	125.4	152.6	2287.0	6052.0
31015230970000	-76.92680	42.0547	103.7	3521.7	26.9	56.4	91.5	122.6	149.8	2505.0	6656.0
31015231040000	-76.71497	42.1360	93.2	3111.4	27.1	53.0	88.4	119.0	144.9	2507.0	6516.0
31015231040000	-76.71500	42.1360	93.7	3111.4	27.2	57.0	89.5	119.9	147.3	2533.0	6933.0
31015231140000	-76.96368	42.0526	89.9	3578.0	22.6	45.2	76.7	102.4	124.5	3194.0	7967.0
31015231140000	-76.96368	42.0526	70.7	2433.5	25.4	45.2	82.2	105.5	127.6	3060.0	7399.0
31015231140000	-76.96370	42.0526	89.9	3577.1	22.6	48.1	78.6	108.6	132.0	3098.0	7897.0
31015231140100	-76.96370	42.0526	114.6	3910.0	27.0	58.4	94.1	139.6	167.7	2418.0	5929.0
31015231140300	-76.96370	42.0526	90.4	3538.1	23.0	48.8	79.6	109.2	132.9	3025.0	7821.0
31015231340000	-76.88256	42.1928	52.4	1943.4	22.3	39.1	68.1	89.6	108.8	3716.0	8931.0
31015231340000	-76.88260	42.1928	73.5	2909.9	22.2	48.5	73.1	97.5	120.9	3813.0	9160.0
31015231340000	-76.88260	42.1928	52.4	1950.1	22.3	44.4	68.3	90.7	112.4	4004.0	9469.0
31015231460000	-76.57394	42.1603	90.6	3020.3	27.0	53.0	87.9	117.8	143.6	2576.0	6629.0
31015231460000	-76.57394	42.1603	62.0	2156.5	24.6	43.1	75.2	99.1	120.2	3275.0	7958.0
31015231460000	-76.57390	42.1603	90.9	3101.6	26.4	57.1	86.7	115.5	142.6	2720.0	7544.0

31015231460000	-76.57390	42.1603	62.0	2156.5	24.6	48.8	76.1	100.8	124.3	3402.0	8462.0
31015231560100	-76.67668	42.1658	93.0	3069.3	27.4	53.8	89.2	119.5	145.7	2505.0	6507.0
31015231560100	-76.67670	42.1658	93.1	3086.4	27.3	56.7	89.6	118.2	145.5	2540.0	7010.0
31015231730000	-76.77371	42.0944	103.0	3229.1	29.1	57.1	95.3	128.9	156.9	2223.0	5787.0
31015231730000	-76.77371	42.0944	96.5	3106.5	28.2	54.9	91.8	124.3	151.2	2318.0	6093.0
31015231730000	-76.77370	42.0944	103.0	3228.4	29.1	61.5	95.8	132.8	162.1	2304.0	6154.0
31015231820000	-76.94378	42.1565	92.8	2776.4	30.2	58.3	96.1	129.1	157.4	2181.0	5784.0
31015231820000	-76.94378	42.1565	52.8	1992.8	22.0	38.6	67.5	88.8	107.7	3768.0	9008.0
31015231820000	-76.94380	42.1565	92.8	2778.0	30.2	63.3	95.9	127.9	157.7	2278.0	6523.0
31015231820100	-76.94378	42.1565	89.7	2943.5	27.4	53.7	88.7	118.9	145.1	2542.0	6547.0
31015231820100	-76.94380	42.1565	89.8	2966.3	27.3	58.0	88.5	117.8	145.3	2544.0	7281.0
31015231860100	-76.90128	42.0523	111.0	3524.4	28.9	57.6	96.0	129.4	157.6	2205.0	5790.0
31015231860100	-76.90128	42.0523	65.5	2325.3	24.3	42.6	78.7	100.1	121.0	3271.0	7863.0
31015231860100	-76.90130	42.0523	111.2	3664.0	27.9	59.9	95.3	138.1	166.8	2359.0	5948.0
31015232000000	-76.89282	42.2036	95.1	2685.9	32.1	62.0	101.1	135.7	165.7	2042.0	5405.0
31015232000000	-76.89282	42.2036	47.9	1409.4	27.6	48.4	80.6	108.0	131.6	2955.0	7128.0
31015232000000	-76.89280	42.2036	70.4	2855.7	21.5	46.8	70.9	94.6	117.2	3946.0	9376.0
31015232030000	-76.59207	42.1920	93.8	2763.0	30.7	59.6	97.6	131.0	159.9	2134.0	5692.0
31015232030000	-76.59210	42.1920	93.8	2760.6	30.7	64.2	97.4	129.8	160.1	2233.0	6360.0
31015232120000	-76.93637	42.0674	103.5	3390.3	27.9	55.2	92.2	124.1	151.1	2305.0	6151.0
31015232120000	-76.93637	42.0674	70.2	2360.7	25.9	45.7	83.6	106.6	128.9	3005.0	7268.0
31015232120000	-76.93640	42.0674	103.5	3411.9	27.7	59.0	92.9	131.4	159.6	2420.0	6304.0
31015232280000	-76.76679	42.2180	88.8	2653.9	30.1	58.1	95.1	127.3	155.5	2272.0	5943.0
31015232280000	-76.76679	42.2180	50.4	1628.9	25.4	44.5	75.3	100.1	121.9	3228.0	7860.0
31015232280000	-76.76680	42.2180	88.8	2651.5	30.1	64.5	95.0	127.1	157.2	2380.0	6861.0
31015238140000	-76.56256	42.1855	83.7	2636.2	28.3	54.0	89.8	119.9	146.2	2536.0	6414.0
31015238140000	-76.56260	42.1855	83.7	2633.8	28.4	59.2	89.6	119.5	147.5	2514.0	7139.0
31015238190000	-76.94715	42.0548	101.0	3520.1	26.1	52.0	87.3	117.3	142.7	2544.0	6678.0
31015238190000	-76.94715	42.0548	65.7	2202.5	25.7	45.2	82.8	105.4	127.5	3057.0	7354.0
31015238190000	-76.94720	42.0548	103.8	3545.4	26.7	56.4	91.2	124.1	151.3	2518.0	6618.0
31015238190100	-76.94720	42.0548	98.7	3503.1	25.6	53.9	87.5	117.8	143.8	2668.0	7051.0
31015238190200	-76.94720	42.0548	95.4	3494.2	24.7	51.9	84.6	113.6	138.8	2793.0	7369.0
31015238190300	-76.94715	42.0548	105.8	3455.2	28.0	55.6	93.0	125.2	152.4	2286.0	6076.0
31015238190300	-76.94720	42.0548	106.2	3703.6	26.3	55.9	90.5	127.0	154.0	2547.0	6522.0
31015238200000	-76.89275	42.2036	98.3	2866.9	31.1	61.1	99.4	133.3	162.8	2076.0	5590.0

31015238200000	-76.89275	42.2036	57.4	1892.8	25.6	44.9	76.7	101.4	123.3	3166.0	7748.0
31015238200000	-76.89280	42.2036	99.3	3111.1	29.0	64.1	94.5	126.5	156.4	2392.0	6991.0
31015238270000	-76.75203	42.2209	76.9	2622.8	25.9	49.8	82.7	110.2	134.4	2864.0	7243.0
31015238270000	-76.75203	42.2209	56.7	1810.5	26.3	46.2	78.4	103.8	126.4	3074.0	7524.0
31015238270000	-76.75200	42.2209	76.9	2621.9	25.9	55.1	82.6	110.3	136.4	3149.0	8008.0
31015238430000	-76.93681	42.0099	103.9	3634.4	26.1	52.0	88.2	118.2	143.7	2492.0	6597.0
31015238430000	-76.93681	42.0099	61.3	2284.8	22.9	40.2	74.7	95.3	114.9	3507.0	8351.0
31015238430000	-76.93680	42.0099	103.9	3632.3	26.1	56.0	89.6	128.6	155.5	2567.0	6525.0
31015239120000	-76.91157	42.0050	103.0	3419.2	27.5	54.2	91.7	123.4	150.0	2348.0	6177.0
31015239120000	-76.91157	42.0050	60.2	2209.8	23.2	40.6	75.4	96.3	116.2	3462.0	8246.0
31015239120000	-76.91160	42.0050	103.3	3630.2	26.0	56.0	88.6	130.4	157.3	2580.0	6493.0
31015239250000	-76.57500	42.2574	82.7	2662.1	27.7	57.5	87.8	116.9	144.2	2591.0	7272.0
31015239470000	-76.95046	42.0763	94.5	3354.6	25.5	50.4	84.7	113.7	138.4	2716.0	6954.0
31015239470000	-76.95046	42.0763	58.5	2076.0	23.9	41.8	77.0	97.6	118.1	3364.0	8097.0
31015239470000	-76.95050	42.0763	58.5	2075.1	23.9	47.2	73.7	97.6	120.5	3565.0	8744.0
31015239500000	-76.78489	42.2395	85.7	2809.6	27.3	53.6	87.8	117.2	143.2	2630.0	6736.0
31015239500000	-76.78489	42.2395	62.3	1880.0	28.4	49.8	84.0	111.3	135.5	2800.0	6884.0
31015239500000	-76.78490	42.2395	85.9	2837.4	27.1	58.3	87.3	116.6	144.1	2820.0	7533.0
31015239700000	-76.93630	42.0662	65.1	2134.5	26.3	50.1	81.3	107.1	131.3	2935.0	7622.0
31015239700100	-76.93633	42.0662	100.9	3506.7	26.2	52.2	87.6	117.5	143.0	2537.0	6663.0
31015239700100	-76.93630	42.0662	101.2	3669.5	25.1	54.2	86.2	127.0	153.1	2630.0	6725.0
31015239870000	-76.54400	42.1593	86.4	3092.8	25.0	52.4	82.6	110.8	136.0	2806.0	7647.0
31015260080000	-76.85310	42.0461	106.3	3201.9	30.4	63.3	100.6	131.9	162.2	2164.0	6011.0
31015260200000	-76.68522	42.1417	35.2	1279.2	20.5	36.0	65.8	83.2	100.8	4089.0	9611.0
31015260200000	-76.68520	42.1417	35.2	1278.6	20.5	40.9	59.9	80.7	100.9	4794.0	10649.0
31015260360000	-76.95580	42.1098	45.9	1911.1	19.3	39.9	60.2	80.5	100.3	4737.0	10569.0
31015260370000	-76.63880	42.1683	102.3	3020.9	30.9	64.7	99.6	132.6	163.3	2176.0	6101.0
31015260580000	-76.71050	42.1145	37.2	1307.0	21.6	44.1	63.0	85.2	106.7	4653.0	10450.0
31015260740000	-76.73622	42.1223	52.5	1964.1	22.2	38.9	71.9	91.0	110.0	3661.0	8787.0
31015260740000	-76.73620	42.1223	52.5	1963.2	22.2	46.1	68.3	91.5	113.8	4129.0	9665.0
31015260850000	-76.75020	42.1125	30.5	956.8	22.5	45.9	63.2	86.1	108.2	4801.0	10659.0
31015260920000	-76.73129	42.2045	94.7	2941.0	29.1	57.3	93.9	125.6	153.4	2308.0	6104.0
31015260920000	-76.73130	42.2045	95.3	3078.2	28.0	58.8	91.4	121.4	149.5	2447.0	6840.0
31015260940000	-76.54647	42.2523	87.3	2901.7	27.0	53.4	87.3	116.1	142.0	2658.0	6857.0
31015260940000	-76.54650	42.2523	87.2	2881.3	27.2	56.4	87.6	116.2	143.2	2576.0	7228.0

31015260970000	-76.69660	42.0809	36.5	1248.5	22.1	45.9	64.3	87.3	109.5	4637.0	10427.0
31015260970000	-76.69660	42.0809	41.5	1248.5	26.1	54.2	74.3	100.9	126.2	4001.0	9465.0
31015260980000	-76.64100	42.1250	43.1	1335.0	25.6	53.2	73.6	99.9	124.8	3995.0	9455.0
31015261230000	-76.72608	42.1031	99.5	3183.9	28.4	55.7	93.0	125.7	153.0	2282.0	6009.0
31015261230000	-76.72610	42.1031	99.7	3235.5	28.0	58.9	93.1	125.7	153.9	2420.0	6533.0
31015261420000	-76.59534	42.2444	89.1	2927.9	27.4	54.1	88.5	117.8	144.1	2603.0	6726.0
31015261420000	-76.59530	42.2444	89.1	2924.9	27.4	57.1	88.5	117.5	144.8	2538.0	7129.0
31015261680000	-76.63550	42.1704	60.4	1909.0	26.9	52.9	81.1	107.7	132.9	3099.0	7915.0
31015261960000	-76.82194	42.1816	74.8	2834.6	23.2	45.1	75.7	101.0	123.1	3235.0	8061.0
31015261960000	-76.82194	42.1816	88.7	2834.6	28.1	54.6	90.3	121.1	147.7	2467.0	6372.0
31015261960000	-76.82194	42.1816	36.9	899.2	31.0	54.4	88.1	120.4	146.9	2646.0	6068.0
31015261960000	-76.82190	42.1816	91.3	3935.9	20.9	47.1	72.9	96.8	119.6	3818.0	9173.0
31015264140000	-76.90170	42.1694	33.8	994.6	24.9	43.7	67.3	89.5	110.8	3890.0	9286.0
31015264150000	-76.90170	42.1694	101.5	4258.4	21.7	51.1	75.7	101.3	125.7	3808.0	9151.0
31015264150000	-76.90170	42.1694	87.6	2557.3	30.8	66.6	96.3	129.3	160.0	2501.0	6873.0
31015264150000	-76.90170	42.1694	69.8	2298.5	26.4	56.0	82.2	110.1	136.5	3225.0	8146.0
31015264150000	-76.90170	42.1694	71.8	2066.5	30.4	62.4	91.1	122.1	151.1	2716.0	7179.0
31015264150000	-76.90170	42.1694	96.0	3124.5	27.9	62.6	90.9	122.0	151.0	2871.0	7483.0
31017011600000	-75.34468	42.6934	50.2	1718.2	24.0	51.8	72.6	98.4	122.9	3946.0	9377.0
31017011600000	-75.34470	42.6934	50.2	1718.2	24.0	52.2	72.9	98.8	123.5	3957.0	9394.0
31017053440000	-75.77300	42.3904	42.2	1871.5	17.8	38.8	56.7	76.6	96.0	5102.0	11071.0
31017106070000	-75.48468	42.4511	39.6	1611.2	19.0	37.5	59.3	78.4	97.1	4652.0	10448.0
31017106070000	-75.48470	42.4511	39.6	1608.4	19.0	41.4	59.2	80.2	100.6	4959.0	10879.0
31017106080000	-75.67070	42.3177	54.1	2010.8	22.4	48.8	70.0	94.5	117.9	4053.0	9546.0
31017106090000	-75.58833	42.3476	60.9	1904.1	27.3	54.0	83.8	112.1	138.2	2823.0	7226.0
31017106090000	-75.58830	42.3476	61.4	1959.0	26.7	58.4	81.7	110.7	137.9	3337.0	8347.0
31017115430000	-75.84860	42.4002	50.7	1769.6	23.6	51.3	72.0	97.6	121.9	3994.0	9453.0
31017231630000	-75.63189	42.6403	51.3	1275.3	33.2	67.5	94.7	128.0	158.9	2546.0	6836.0
31017231630000	-75.63190	42.6403	51.3	1275.3	33.2	72.3	94.2	128.7	160.7	3043.0	7810.0
31017238900000	-75.61790	42.6308	39.0	1267.4	23.7	51.5	69.8	95.2	119.4	4355.0	10011.0
31017239660000	-75.63230	42.6459	35.8	1237.8	21.7	46.8	64.4	87.8	110.3	4698.0	10514.0
31017239970000	-75.61770	42.5418	46.0	1489.3	24.9	54.2	74.1	100.8	126.1	3975.0	9422.0
31017260310000	-75.67660	42.4772	40.7	1663.3	19.1	41.5	59.5	80.6	101.1	4920.0	10825.0
31017260500000	-75.63280	42.4293	39.9	1582.5	19.5	42.5	60.4	81.9	102.8	4881.0	10770.0
31017260790000	-75.62260	42.6703	56.1	1931.8	24.4	53.3	75.2	101.7	126.9	3746.0	9049.0

31023047140000	-76.00058	42.5186	71.9	2521.0	24.9	52.7	79.1	105.8	131.1	3225.0	8145.0
31023047140000	-76.00058	42.5186	62.2	2120.8	25.1	53.7	80.4	107.6	133.3	3138.0	8034.0
31023047140000	-76.00060	42.5186	71.9	2520.7	24.9	55.2	79.6	107.3	133.5	3361.0	8389.0
31023047140000	-76.00060	42.5186	62.2	2120.5	25.1	53.0	77.4	104.1	129.3	3425.0	8503.0
31023132510000	-76.20290	42.4224	23.3	879.7	16.3	35.4	49.8	68.4	86.6	5787.0	11945.0
31023194840000	-76.26586	42.7029	53.9	1702.6	26.4	56.7	81.0	109.3	136.0	3286.0	8255.0
31023194840000	-76.26590	42.7029	53.9	1699.3	26.4	57.5	79.3	107.6	134.3	3564.0	8743.0
31023195400000	-76.02057	42.5544	70.3	2375.0	25.8	54.5	80.8	108.3	134.3	3156.0	8020.0
31023195400000	-76.02057	42.5544	53.5	1770.0	25.1	52.2	77.9	104.3	129.3	3310.0	8299.0
31023195400000	-76.02057	42.5544	29.3	953.7	21.3	43.1	65.7	87.6	108.7	4143.0	9687.0
31023195400000	-76.02060	42.5544	88.8	2859.6	27.9	64.5	89.9	121.7	151.5	2985.0	7701.0
31023215000000	-75.91326	42.6391	57.6	2098.9	23.2	48.9	71.9	96.5	120.1	3801.0	9140.0
31023215000000	-75.91326	42.6391	34.1	1147.6	21.9	43.5	65.3	87.3	108.6	4195.0	9768.0
31023215000000	-75.91330	42.6391	57.6	2096.4	23.2	52.8	73.1	99.3	124.2	4060.0	9558.0
31023215000000	-75.91330	42.6391	34.1	1143.3	21.9	45.9	65.1	88.2	110.4	4459.0	10167.0
31023227980000	-76.04159	42.6073	66.3	2209.8	25.9	54.9	80.2	107.8	133.8	3248.0	8186.0
31023227980000	-76.04160	42.6073	66.2	2193.7	26.1	56.8	81.1	109.4	136.2	3287.0	8257.0
31023227980100	-76.04159	42.6073	72.5	2153.7	29.5	62.2	89.9	121.0	150.1	2716.0	7179.0
31023227980100	-76.04160	42.6073	72.8	2183.9	29.2	63.6	89.8	121.4	150.9	2816.0	7376.0
31023228050000	-76.10864	42.5829	73.5	2213.8	29.2	61.4	89.6	120.5	149.3	2593.0	7119.0
31023228050000	-76.10860	42.5829	73.5	2211.3	29.2	63.5	89.9	121.5	151.0	2799.0	7343.0
31023228050100	-76.10864	42.5829	72.5	2223.8	28.6	60.1	88.0	118.2	146.6	2721.0	7283.0
31023228050100	-76.10860	42.5829	72.5	2221.4	28.6	62.3	88.3	119.3	148.3	2881.0	7501.0
31023228180000	-76.21375	42.5391	24.8	827.8	19.1	42.7	65.6	87.2	108.2	4310.0	9944.0
31023228180000	-76.21380	42.5391	24.5	810.8	19.2	41.4	56.4	77.5	98.0	5405.0	11469.0
31023230350000	-76.24605	42.4946	64.8	2383.8	23.4	50.4	76.6	102.2	126.5	3360.0	8439.0
31023230350000	-76.24610	42.4946	64.8	2382.6	23.4	51.2	74.5	100.3	124.8	3660.0	8905.0
31023230350100	-76.24605	42.4946	65.4	2392.1	23.6	50.8	77.1	102.9	127.4	3316.0	8378.0
31023230350100	-76.24610	42.4946	65.8	2437.8	23.3	51.1	74.4	100.1	124.6	3676.0	8933.0
31023230350200	-76.24605	42.4946	57.1	2245.8	21.4	45.8	70.5	93.7	116.1	3819.0	9170.0
31023230350200	-76.24610	42.4946	57.1	2244.9	21.4	45.9	67.9	91.1	113.4	4101.0	9622.0
31023230510000	-75.92449	42.5791	16.0	680.9	10.2	24.0	39.8	52.3	65.4	6478.0	12778.0
31023231760000	-76.18264	42.6991	60.8	2015.9	25.7	54.6	78.4	105.7	131.5	3420.0	8494.0
31023231760000	-76.18260	42.6991	60.8	2015.0	25.7	55.3	78.8	106.4	132.5	3441.0	8531.0
31023231760100	-76.18264	42.6991	66.0	2106.5	27.1	58.6	83.2	112.4	139.9	3167.0	8040.0

31023231760100	-76.18260	42.6991	66.2	2133.0	26.8	58.8	83.0	112.2	139.7	3225.0	8146.0
31023238960000	-76.22930	42.7625	49.4	1536.8	26.3	57.2	78.0	106.1	132.6	3715.0	8999.0
31025040730000	-75.04223	42.3740	30.2	1288.4	16.5	35.4	55.2	73.4	91.4	5173.0	11166.0
31025040730000	-75.04220	42.3740	38.2	1621.1	18.0	39.4	56.7	76.8	96.5	5197.0	11199.0
31025040730000	-75.04220	42.3740	30.2	1288.4	16.5	34.3	50.7	68.6	86.3	5571.0	11679.0
31025042140000	-74.92141	42.1828	73.4	3345.2	19.2	43.9	65.8	88.0	109.5	4387.0	10060.0
31025042140000	-74.92140	42.1828	73.3	3341.5	19.3	41.1	65.9	86.7	106.9	4167.0	9724.0
31025043640000	-75.23370	42.3169	57.3	2425.6	19.9	42.5	64.4	86.0	106.9	4363.0	10024.0
31025043790000	-74.62734	42.2735	66.6	2753.9	20.9	46.7	68.9	92.4	115.0	4149.0	9697.0
31025043790000	-74.62730	42.2735	66.6	2753.6	20.9	44.7	68.6	91.3	113.1	4000.0	9463.0
31025044550000	-75.04415	42.3905	76.2	2417.1	27.8	60.2	87.1	117.1	145.3	2950.0	7635.0
31025044550000	-75.04420	42.3905	76.2	2417.1	27.8	61.0	87.2	117.5	145.9	3013.0	7754.0
31025100960000	-74.68300	42.1861	59.4	1919.0	26.2	55.9	79.6	107.4	133.6	3433.0	8516.0
31025102270000	-74.62458	42.2977	57.2	2054.4	23.5	49.7	72.6	97.6	121.4	3816.0	9166.0
31025102270000	-74.62460	42.2977	57.2	2055.0	23.5	50.0	72.7	97.8	121.7	3823.0	9177.0
31025210050000	-75.05232	42.3991	49.9	1690.1	24.2	52.6	77.5	103.9	128.9	3508.0	8647.0
31025210050000	-75.05230	42.3991	49.9	1690.1	24.2	50.7	72.3	97.7	121.8	3918.0	9331.0
31029016560000	-78.84540	42.4558	28.6	941.2	20.8	46.7	62.1	85.4	107.7	5068.0	11026.0
31029017010000	-78.66270	42.6723	28.7	792.5	24.9	55.7	71.4	98.4	123.9	4636.0	10424.0
31029017400000	-78.59760	42.6146	33.4	844.3	28.8	64.5	81.3	112.0	140.7	4059.0	9556.0
31029044620000	-78.49500	42.6922	22.6	832.7	16.4	36.7	50.8	69.9	88.7	5791.0	11949.0
31029044880000	-78.50680	42.5694	30.9	945.7	23.2	51.7	67.8	93.2	117.4	4717.0	10541.0
31029045130000	-78.53660	42.5688	33.5	975.4	25.1	55.5	72.4	99.5	125.1	4385.0	10056.0
31029045300000	-78.52730	42.5564	34.7	1001.5	25.7	56.5	73.7	101.2	127.2	4276.0	9893.0
31029045600000	-78.72420	42.9460	33.7	910.9	27.2	60.9	77.7	106.9	134.3	4196.0	9770.0
31029046450000	-78.86806	42.6052	28.4	769.9	25.2	48.0	67.3	91.3	114.3	4141.0	9684.0
31029046450000	-78.86810	42.6052	28.4	769.9	25.2	56.4	72.0	99.2	125.0	4620.0	10402.0
31029046650000	-78.85020	42.6050	25.8	765.7	22.0	41.9	59.9	81.2	101.8	4687.0	10497.0
31029046650000	-78.85020	42.6050	26.0	774.8	21.9	49.1	64.1	88.3	111.4	5058.0	11013.0
31029047210000	-79.01110	42.5846	17.8	604.7	14.6	32.5	45.9	63.3	80.7	6094.0	12308.0
31029066680000	-78.84418	42.8033	43.4	1313.7	26.2	65.3	80.1	110.7	139.5	4643.0	10436.0
31029066680000	-78.84420	42.8033	43.4	1312.5	26.2	59.1	77.7	106.5	133.5	3939.0	9365.0
31029088810000	-78.89210	42.7358	43.4	1314.3	26.2	58.8	77.6	106.2	133.1	3917.0	9330.0
31029108360000	-78.56060	42.6651	25.7	664.2	25.1	56.2	71.2	98.3	123.9	4749.0	10585.0
31029109590000	-78.72720	42.5745	31.1	963.5	23.0	50.9	67.1	92.2	116.1	4717.0	10541.0

31029110020000	-78.53543	42.5575	64.3	1908.7	29.0	63.8	87.6	119.1	148.5	2999.0	7727.0
31029110020000	-78.53540	42.5575	64.3	1908.7	29.0	65.6	88.4	120.5	150.5	3097.0	7911.0
31029111140000	-78.98413	42.5981	44.4	1466.7	24.1	52.0	71.6	97.4	121.9	4049.0	9541.0
31029111140000	-78.98410	42.5981	44.2	1469.8	23.9	58.2	74.0	102.0	128.5	4633.0	10421.0
31029115100000	-78.69990	42.5869	21.4	787.6	15.8	35.3	49.2	67.7	86.0	5890.0	12069.0
31029117280000	-78.73430	42.5695	31.1	962.0	23.0	51.5	67.6	92.9	117.0	4728.0	10557.0
31029117300000	-78.51707	42.7139	50.4	1688.6	24.5	54.3	74.6	101.5	127.0	3860.0	9237.0
31029117300000	-78.51710	42.7139	50.4	1688.6	24.5	55.4	75.1	102.4	128.3	3913.0	9324.0
31029119770000	-78.74123	42.5448	30.5	920.5	23.4	45.1	64.7	87.4	109.3	4272.0	9886.0
31029119770000	-78.74120	42.5448	30.5	918.7	23.4	52.4	68.4	94.1	118.5	4705.0	10523.0
31029123500000	-78.71500	42.5899	22.1	760.2	17.3	38.3	52.5	72.3	91.6	5697.0	11835.0
31029124030000	-78.51060	42.5355	32.5	980.5	24.0	53.5	69.9	96.1	120.9	4566.0	10324.0
31029124500000	-78.51780	42.7405	20.4	678.2	16.7	37.5	51.3	70.8	89.9	5809.0	11972.0
31029124520000	-78.50400	42.7406	21.2	659.9	18.5	41.4	55.4	76.4	96.8	5599.0	11714.0
31029127450000	-78.72006	42.5792	51.5	1681.0	25.3	55.0	75.9	103.2	129.0	3721.0	9009.0
31029127450000	-78.72006	42.5792	39.8	907.1	34.0	65.7	90.0	122.2	152.2	2747.0	7240.0
31029127450000	-78.72006	42.5792	24.5	771.4	20.1	38.8	56.6	76.5	95.9	4934.0	10843.0
31029127450000	-78.72010	42.5792	51.5	1681.6	25.3	60.8	78.1	107.3	134.8	4223.0	9811.0
31029127450000	-78.72010	42.5792	39.8	907.1	34.0	73.1	92.3	126.8	158.8	3312.0	8302.0
31029127450000	-78.72010	42.5792	24.5	771.5	20.1	43.0	58.5	80.2	101.3	5193.0	11193.0
31029128060000	-78.90230	42.5718	19.5	766.9	13.6	30.5	43.9	60.5	77.0	6177.0	12405.0
31029129100000	-78.80330	42.4665	57.4	1775.8	27.3	58.8	81.6	110.7	138.1	3307.0	8294.0
31029129100000	-78.80330	42.4665	26.5	833.6	21.0	40.7	59.4	80.1	100.2	4676.0	10482.0
31029129100000	-78.80330	42.4665	57.4	1777.3	27.3	64.2	83.6	114.5	143.5	3695.0	8965.0
31029129100000	-78.80330	42.4665	26.5	833.6	21.0	44.0	60.6	82.8	104.2	4900.0	10798.0
31029129700000	-78.73550	42.5299	27.9	908.0	20.8	46.5	61.8	85.0	107.3	5101.0	11070.0
31029129710000	-78.72850	42.5283	26.5	909.5	19.2	43.2	58.1	80.0	101.1	5336.0	11379.0
31029129830000	-78.71890	42.5382	26.7	965.0	18.4	41.2	56.1	77.0	97.4	5432.0	11504.0
31029129850000	-78.71440	42.5328	29.3	952.2	21.3	47.9	63.5	87.3	110.1	4989.0	10920.0
31029130960000	-78.51730	42.7195	22.7	760.2	18.0	38.8	53.3	73.2	92.7	5586.0	11697.0
31029136250000	-78.75460	42.5085	32.2	938.8	24.7	55.3	71.7	98.6	124.1	4503.0	10232.0
31029140220000	-78.85500	42.4596	26.7	882.4	20.0	43.4	58.8	80.7	101.9	5215.0	11222.0
31029140560000	-78.64750	42.6763	25.0	763.2	20.9	46.6	61.5	84.7	107.0	5198.0	11200.0
31029140570000	-78.65440	42.6789	22.3	773.0	17.2	38.6	52.7	72.6	92.1	5698.0	11836.0
31029140600000	-78.61960	42.6781	25.4	835.2	19.7	44.1	58.9	81.1	102.5	5316.0	11354.0

31029140670000	-78.63130	42.6758	23.7	829.4	17.7	39.8	54.1	74.5	94.4	5604.0	11720.0
31029140720000	-78.61660	42.6823	25.6	847.7	19.6	44.0	58.8	81.0	102.3	5322.0	11361.0
31029140890000	-78.66960	42.6728	20.2	781.2	14.4	32.2	45.8	63.0	80.2	6080.0	12293.0
31029145130000	-78.86580	42.4570	28.9	959.8	20.7	46.4	61.9	85.0	107.2	5075.0	11035.0
31029147430000	-78.68990	42.6732	19.8	677.6	15.9	35.4	49.1	67.6	85.9	5912.0	12095.0
31029147450000	-78.64410	42.6731	23.7	791.9	18.6	41.6	56.0	77.1	97.6	5502.0	11592.0
31029147970000	-78.97200	42.5914	24.7	780.6	20.1	45.0	59.6	82.2	103.9	5306.0	11341.0
31029147980000	-78.88870	42.5969	26.3	776.6	22.2	49.8	64.9	89.4	112.8	5009.0	10946.0
31029147990000	-78.89780	42.5967	25.5	761.4	21.7	48.4	63.3	87.3	110.2	5100.0	11069.0
31029149550000	-78.70000	42.6713	21.1	806.2	15.1	33.7	47.5	65.4	83.1	5981.0	12177.0
31029152710000	-78.95350	42.5757	18.9	653.5	15.1	33.8	47.2	65.2	82.9	6022.0	12225.0
31029157420000	-78.63120	42.5053	32.2	959.2	24.2	53.9	70.3	96.7	121.7	4552.0	10303.0
31029157610000	-78.64800	42.5008	31.7	961.3	23.6	52.8	69.0	94.8	119.4	4641.0	10433.0
31029158080000	-78.62880	42.5170	32.4	977.8	24.0	53.5	70.0	96.1	121.0	4564.0	10320.0
31029158090000	-78.83890	42.5911	23.2	798.0	17.8	39.9	54.2	74.6	94.5	5599.0	11714.0
31029158100000	-78.82530	42.5897	22.7	802.2	17.1	38.4	52.6	72.4	91.8	5697.0	11835.0
31029158100000	-78.82530	42.5897	24.9	799.2	19.9	44.6	59.3	81.7	103.3	5307.0	11343.0
31029159160000	-78.69540	42.5280	27.9	1011.9	18.7	42.3	57.3	78.8	99.6	5375.0	11430.0
31029160970000	-78.71500	42.6973	25.2	741.9	21.8	48.9	63.8	87.9	111.0	5095.0	11062.0
31029166010000	-78.70270	42.7355	17.5	603.5	14.2	31.7	44.9	62.0	79.0	6147.0	12369.0
31029177350000	-78.63000	42.5239	28.4	969.6	20.1	44.9	60.2	82.7	104.4	5165.0	11155.0
31029177620000	-78.64710	42.6288	22.9	853.4	16.3	36.6	50.7	69.8	88.5	5789.0	11947.0
31029177680000	-78.63040	42.5567	28.8	997.0	19.9	44.4	59.9	82.2	103.8	5172.0	11166.0
31029178280000	-78.86720	42.6618	17.5	602.9	14.2	31.7	44.9	62.0	79.0	6147.0	12370.0
31029178580000	-78.88750	42.6390	17.9	660.5	13.4	30.1	43.3	59.7	76.2	6221.0	12454.0
31029179290000	-78.91250	42.6354	17.9	624.8	14.2	31.7	45.0	62.1	79.1	6137.0	12358.0
31029180190000	-78.89880	42.6291	20.1	663.9	16.8	37.6	51.3	70.8	89.9	5811.0	11974.0
31029180200000	-78.89630	42.6341	20.0	658.1	16.8	37.7	51.4	70.9	90.0	5813.0	11976.0
31029180210000	-78.89170	42.6291	20.1	694.9	15.9	35.7	49.4	68.1	86.5	5909.0	12091.0
31029182700000	-78.66746	42.6017	30.7	972.3	22.3	44.5	63.5	86.0	107.7	4442.0	10142.0
31029182700000	-78.66750	42.6017	30.8	976.0	22.3	50.0	65.9	90.6	114.2	4825.0	10692.0
31029183720000	-78.96480	42.6176	35.2	1098.8	23.8	53.5	70.4	96.6	121.5	4486.0	10207.0
31029184930000	-78.87760	42.6282	20.3	712.3	15.9	35.6	49.3	68.0	86.4	5905.0	12086.0
31029185270000	-78.85490	42.6262	21.0	721.2	16.6	37.3	51.1	70.5	89.5	5802.0	11963.0
31029185280000	-78.87550	42.6172	21.2	731.5	16.6	37.2	51.1	70.4	89.4	5801.0	11961.0

31029187200000	-78.69930	42.5324	27.3	1007.7	18.2	41.1	55.9	76.9	97.2	5455.0	11533.0
31029187420000	-78.67533	42.5327	29.4	957.1	21.3	41.1	59.9	80.8	101.1	4633.0	10420.0
31029187420000	-78.67530	42.5327	29.4	956.5	21.3	47.6	63.2	86.9	109.6	4983.0	10911.0
31029187430000	-78.69600	42.5460	31.6	994.6	22.7	51.2	67.2	92.4	116.4	4770.0	10616.0
31029188390000	-78.54870	42.5654	30.6	1044.9	20.7	45.2	61.3	83.9	105.8	5003.0	10938.0
31029188430000	-78.60810	42.5479	30.4	1029.9	20.8	45.7	61.7	84.6	106.6	5001.0	10935.0
31029188990000	-78.88890	42.6216	20.0	725.4	15.1	28.8	43.8	59.3	74.9	5992.0	12190.0
31029188990000	-78.88890	42.6216	19.9	723.6	15.1	33.8	47.4	65.4	83.2	6001.0	12200.0
31029189990000	-78.83930	42.5635	22.1	833.3	15.7	35.2	49.1	67.6	85.8	5883.0	12061.0
31029190020000	-78.92280	42.6218	17.9	624.5	14.2	31.8	45.1	62.2	79.2	6137.0	12358.0
31029190030000	-78.92260	42.6108	18.9	655.6	15.1	33.9	47.3	65.3	83.1	6022.0	12224.0
31029190040000	-78.86010	42.6335	20.9	712.0	16.7	37.4	51.2	70.7	89.7	5806.0	11967.0
31029190050000	-78.86810	42.6461	19.1	671.5	15.1	33.9	47.4	65.4	83.2	6017.0	12219.0
31029190060000	-78.86870	42.6368	19.0	696.5	14.3	32.0	45.5	62.7	79.8	6107.0	12324.0
31029190190000	-78.91350	42.6256	18.2	644.7	14.2	31.9	45.3	62.5	79.6	6128.0	12348.0
31029190190000	-78.91350	42.6256	18.7	643.7	15.1	33.9	47.3	65.3	83.1	6026.0	12229.0
31029190770000	-78.89110	42.6348	18.6	672.1	14.3	32.0	45.4	62.6	79.8	6117.0	12335.0
31029192090000	-78.67830	42.5290	31.0	993.7	22.1	49.6	65.6	90.1	113.6	4830.0	10700.0
31029192220000	-78.55660	42.5736	33.0	1059.8	22.6	50.8	67.2	92.2	116.1	4697.0	10512.0
31029192230000	-78.55364	42.5703	32.7	1039.4	22.8	45.2	65.0	87.8	109.8	4266.0	9877.0
31029192230000	-78.55360	42.5703	32.7	1039.4	22.8	50.8	67.2	92.3	116.1	4676.0	10482.0
31029192890000	-78.68380	42.5552	29.8	943.7	22.0	49.3	65.0	89.4	112.7	4893.0	10788.0
31029193290000	-78.62340	42.5252	31.1	999.1	22.1	49.3	65.3	89.7	113.1	4827.0	10695.0
31029193320000	-78.95920	42.5721	23.5	666.3	21.8	48.8	63.3	87.4	110.5	5174.0	11168.0
31029193770000	-78.85390	42.6322	20.8	707.8	16.7	37.4	51.2	70.6	89.6	5804.0	11966.0
31029193790000	-78.86950	42.6004	20.9	793.1	15.1	33.8	47.5	65.4	83.1	5984.0	12180.0
31029198470000	-78.87400	42.5893	24.5	808.3	19.2	42.9	57.6	79.2	100.2	5407.0	11471.0
31029198800000	-78.86910	42.5893	25.1	811.7	19.8	44.4	59.1	81.4	102.9	5310.0	11346.0
31029198910000	-78.86260	42.6304	21.0	718.1	16.6	37.3	51.2	70.5	89.5	5803.0	11964.0
31029207350000	-78.62590	42.7354	18.2	644.0	14.2	31.9	45.2	62.4	79.5	6128.0	12348.0
31029207570000	-78.85530	42.5448	24.9	835.2	19.0	42.6	57.3	78.8	99.7	5410.0	11476.0
31029208120000	-78.67390	42.7369	17.7	613.3	14.2	31.8	45.0	62.1	79.2	6142.0	12364.0
31029208590000	-78.84690	42.5750	24.7	820.5	19.1	42.8	57.4	79.1	100.0	5409.0	11473.0
31029209690000	-78.77310	42.5821	29.2	826.6	24.5	54.7	70.5	97.0	122.2	4654.0	10451.0
31029209750000	-78.69110	42.5395	31.4	984.8	22.8	51.2	67.2	92.4	116.4	4748.0	10585.0

31029209760000	-78.69150	42.5594	29.5	965.6	21.2	47.6	63.2	86.9	109.6	4991.0	10922.0
31029211260000	-78.69460	42.5711	28.2	871.1	22.0	49.2	64.6	88.9	112.2	4949.0	10865.0
31029211360000	-78.70030	42.5416	21.1	842.2	14.4	32.3	46.0	63.2	80.4	6065.0	12275.0
31029211700000	-78.69970	42.5416	18.8	649.5	15.1	32.3	46.2	63.5	80.7	6003.0	12202.0
31029218350000	-78.87110	42.5741	23.6	821.4	17.8	39.6	54.0	74.3	94.1	5600.0	11714.0
31029218440000	-78.75700	42.5573	26.8	894.0	20.0	44.7	59.8	82.2	103.8	5236.0	11249.0
31029218880000	-78.86620	42.5509	24.7	820.8	19.1	42.8	57.4	79.1	100.0	5409.0	11473.0
31029219020000	-78.72070	42.5181	23.5	776.3	18.7	41.6	56.0	77.2	97.7	5499.0	11589.0
31029219440000	-78.79250	42.5640	28.0	879.0	21.6	48.5	63.9	87.9	110.9	5002.0	10936.0
31029219560000	-78.58070	42.6652	22.2	803.8	16.4	36.9	50.9	70.1	88.9	5793.0	11952.0
31029219720000	-78.65250	42.5140	29.5	969.3	21.2	47.5	63.2	86.8	109.4	4991.0	10922.0
31029220080000	-78.90430	42.5941	22.6	757.4	18.0	40.4	54.6	75.2	95.3	5600.0	11714.0
31029220490000	-78.77930	42.5382	27.9	929.0	20.3	45.5	60.8	83.6	105.5	5154.0	11141.0
31029220500000	-78.75800	42.5524	27.6	906.8	20.5	45.9	61.1	84.1	106.1	5147.0	11132.0
31029221460000	-78.85760	42.4632	28.7	949.8	20.8	46.6	62.0	85.3	107.6	5073.0	11033.0
31029221470000	-78.85240	42.4624	28.7	950.1	20.8	46.3	61.8	84.9	107.1	5067.0	11025.0
31029221480000	-78.84880	42.4594	30.4	988.5	21.6	48.6	64.4	88.5	111.5	4922.0	10828.0
31029221490000	-78.85530	42.4665	31.3	935.7	23.8	53.3	69.5	95.5	120.2	4626.0	10410.0
31029221750000	-78.70400	42.5591	30.1	1007.7	20.9	46.9	62.6	86.0	108.4	5006.0	10943.0
31029222820000	-78.75050	42.6945	21.3	741.6	16.6	37.2	51.1	70.4	89.4	5800.0	11960.0
31029223020000	-78.98500	42.5908	22.5	636.7	21.2	47.2	61.6	85.0	107.5	5267.0	11291.0
31029223510000	-79.03920	42.5699	20.9	601.7	19.7	44.1	58.1	80.3	101.7	5487.0	11573.0
31029223520000	-78.70810	42.5988	26.7	769.9	23.0	51.6	66.8	92.0	116.1	4909.0	10809.0
31029224120000	-78.80300	42.6554	21.8	737.0	17.4	38.9	52.9	73.0	92.5	5701.0	11839.0
31029224460000	-78.80440	42.6686	20.1	701.0	15.9	35.6	49.3	68.0	86.4	5907.0	12089.0
31029224540000	-78.81130	42.6693	19.8	679.7	15.9	35.7	49.3	68.1	86.5	5912.0	12095.0
31029225620000	-78.64620	42.6201	26.8	851.3	20.9	46.7	61.8	85.0	107.4	5128.0	11106.0
31029226030000	-78.73810	42.5027	29.3	947.9	21.4	47.9	63.5	87.3	110.1	4983.0	10910.0
31029226170000	-78.69950	42.5318	19.5	656.8	16.0	33.7	47.9	65.8	83.5	5867.0	12040.0
31029226640000	-78.51300	42.6805	21.1	768.4	15.8	35.4	49.2	67.8	86.1	5894.0	12073.0
31029227150000	-78.52830	42.6840	25.2	820.2	19.8	44.4	59.2	81.5	103.0	5316.0	11354.0
31029234760000	-78.95520	42.6079	18.7	605.9	16.0	35.3	48.8	67.4	85.7	5931.0	12117.0
31029234780000	-78.95300	42.5998	19.3	611.1	16.9	37.9	51.5	71.1	90.3	5821.0	11985.0
31029235990000	-78.59010	42.5367	63.4	1821.2	29.9	64.8	89.1	121.1	150.9	2910.0	7557.0
31029235990000	-78.59010	42.5367	63.4	1821.8	29.9	67.1	90.3	123.1	153.7	2981.0	7693.0

31029241880000	-78.75700	42.5742	27.5	898.9	20.5	46.1	61.3	84.3	106.4	5148.0	11133.0
31029244270000	-78.86890	42.5849	29.2	828.5	24.4	54.7	70.5	97.1	122.3	4656.0	10454.0
31029244700001	-78.79350	42.5201	26.2	928.1	18.5	41.5	56.3	77.4	97.9	5424.0	11493.0
31029248780000	-78.84160	42.5277	25.5	876.6	18.8	42.1	56.9	78.2	98.9	5417.0	11484.0
31029248800000	-78.92320	42.4890	24.3	795.2	19.3	43.1	57.7	79.4	100.5	5404.0	11468.0
31029249060000	-78.81810	42.5734	25.0	845.8	19.0	42.5	57.1	78.6	99.5	5412.0	11478.0
31029249240000	-78.54940	42.5479	57.3	1877.3	25.7	57.7	79.1	107.7	134.7	3553.0	8723.0
31029249350000	-78.60410	42.5738	55.8	1839.8	25.5	57.2	78.2	106.5	133.2	3626.0	8848.0
31029250580000	-78.83750	42.5849	24.5	806.8	19.2	42.9	57.5	79.2	100.2	5406.0	11470.0
31029250590000	-78.83030	42.5850	24.5	807.4	19.2	43.0	57.6	79.3	100.3	5407.0	11471.0
31029250600000	-78.83210	42.5808	24.6	814.4	19.1	42.9	57.5	79.2	100.1	5408.0	11472.0
31029250700000	-78.85970	42.5787	24.8	828.1	19.1	42.4	57.1	78.6	99.4	5407.0	11471.0
31029250710000	-78.86470	42.5811	25.1	848.3	19.0	42.5	57.2	78.7	99.5	5414.0	11480.0
31029250730000	-78.86190	42.5195	25.0	845.8	19.0	42.5	57.2	78.7	99.5	5413.0	11479.0
31029250970000	-78.77700	42.5102	26.5	952.8	18.4	41.3	56.2	77.2	97.6	5429.0	11499.0
31029251090000	-78.84680	42.5313	25.3	864.4	18.9	42.3	57.0	78.4	99.2	5416.0	11482.0
31029251100000	-78.85290	42.5326	25.0	840.6	19.0	42.4	57.1	78.6	99.4	5410.0	11476.0
31029251110000	-78.80220	42.5046	44.1	934.2	37.5	84.0	103.5	142.4	178.2	2980.0	7691.0
31029251120000	-78.85950	42.5304	24.9	837.6	19.0	42.6	57.3	78.8	99.7	5411.0	11477.0
31029251130000	-78.74900	42.5309	26.2	925.4	18.6	41.6	56.4	77.5	98.0	5425.0	11494.0
31029251140000	-78.79160	42.5316	24.8	946.4	16.7	37.4	51.9	71.2	90.2	5697.0	11835.0
31029251150000	-78.79150	42.5270	26.3	937.9	18.5	41.4	56.3	77.4	97.8	5426.0	11496.0
31029251300000	-78.85630	42.5897	25.0	840.0	19.0	42.6	57.2	78.8	99.6	5412.0	11477.0
31029251310000	-78.85040	42.5892	25.1	850.1	18.9	42.5	57.2	78.7	99.5	5414.0	11481.0
31029251320000	-78.84490	42.5911	24.8	831.2	19.1	42.8	57.4	79.0	99.9	5414.0	11480.0
31029251450000	-78.81440	42.5848	24.7	822.1	19.1	42.8	57.4	79.1	100.0	5410.0	11475.0
31029251460000	-78.84510	42.5448	25.3	862.6	18.9	42.3	57.0	78.4	99.2	5415.0	11482.0
31029251780000	-78.82480	42.5736	25.0	840.9	19.0	42.6	57.2	78.8	99.6	5412.0	11478.0
31029251790000	-78.81720	42.5677	25.3	862.0	18.9	42.2	57.0	78.4	99.1	5414.0	11480.0
31029251800000	-78.82180	42.5702	25.2	857.1	18.9	42.4	57.1	78.5	99.3	5415.0	11482.0
31029251840000	-78.88240	42.5702	24.8	826.6	19.1	42.8	57.4	79.0	100.0	5411.0	11476.0
31029251930000	-78.82270	42.5642	25.5	879.0	18.8	42.1	56.9	78.2	98.9	5419.0	11487.0
31029251940000	-78.82230	42.5601	25.6	888.5	18.7	42.0	56.8	78.1	98.7	5420.0	11487.0
31029251950000	-78.82230	42.5944	24.3	794.0	19.3	43.2	57.7	79.5	100.6	5406.0	11470.0
31029252070000	-78.85420	42.5948	24.9	833.0	19.0	42.7	57.3	78.9	99.8	5412.0	11478.0

31029252080000	-78.84870	42.5941	24.8	832.4	19.0	42.7	57.3	78.9	99.8	5412.0	11478.0
31029252400000	-78.78180	42.6608	24.0	774.2	19.4	43.4	58.0	79.9	101.0	5403.0	11466.0
31029252410000	-78.79440	42.6782	22.9	665.7	21.0	47.1	61.4	84.8	107.2	5285.0	11313.0
31029252420000	-78.87080	42.5026	25.0	841.3	19.0	42.5	57.2	78.7	99.6	5412.0	11477.0
31029252430000	-78.85480	42.5088	42.9	851.3	39.8	89.2	108.4	149.4	186.9	2891.0	7521.0
31029252440000	-78.77380	42.5183	34.3	947.9	26.6	59.7	76.6	105.4	132.4	4224.0	9813.0
31029252450000	-78.75570	42.5933	26.4	944.3	18.5	41.4	56.3	77.3	97.7	5429.0	11499.0
31029252470000	-78.88960	42.5815	24.6	817.2	19.1	42.9	57.5	79.2	100.1	5409.0	11474.0
31029252480000	-78.90430	42.6006	23.7	752.6	19.5	43.7	58.2	80.2	101.5	5400.0	11462.0
31029252490000	-78.81790	42.5972	41.8	773.0	42.4	94.7	113.6	156.7	196.1	2790.0	7325.0
31029252500000	-78.89740	42.5881	24.2	788.8	19.3	43.2	57.8	79.6	100.7	5404.0	11468.0
31029252590000	-78.87780	42.5123	24.8	826.3	19.1	42.7	57.3	78.9	99.8	5409.0	11474.0
31029252600000	-78.88190	42.5155	24.7	822.1	19.1	42.8	57.4	79.1	100.0	5409.0	11474.0
31029252610000	-78.87870	42.5195	24.6	813.5	19.2	42.8	57.4	79.1	100.0	5407.0	11471.0
31029252620000	-78.92450	42.5601	23.6	747.1	19.6	43.8	58.3	80.3	101.6	5399.0	11461.0
31029252630000	-78.91890	42.5600	23.8	762.0	19.5	43.6	58.1	80.1	101.3	5400.0	11463.0
31029252660000	-78.88200	42.5094	24.8	830.9	19.1	42.7	57.3	78.9	99.8	5411.0	11476.0
31029252750000	-78.84380	42.5042	22.0	875.4	14.9	33.4	47.3	65.0	82.5	5981.0	12177.0
31029252760000	-78.77050	42.5289	26.4	940.9	18.5	41.4	56.3	77.3	97.8	5427.0	11497.0
31029252770000	-78.91590	42.5638	41.7	768.4	42.6	95.4	114.2	157.5	197.2	2792.0	7328.0
31029252780000	-78.89060	42.5634	30.3	804.1	26.5	59.4	75.5	104.0	130.9	4405.0	10087.0
31029252790000	-78.88590	42.5752	21.1	814.4	14.9	33.4	47.2	64.9	82.5	5998.0	12196.0
31029253070000	-78.90860	42.4903	24.7	820.5	19.1	42.8	57.4	79.1	100.0	5409.0	11474.0
31029253300000	-78.81420	42.6808	22.0	639.2	20.3	45.4	59.6	82.3	104.1	5380.0	11436.0
31029253310000	-78.81280	42.6766	22.1	647.7	20.3	45.4	59.6	82.2	104.1	5382.0	11440.0
31029253320000	-78.78860	42.6786	22.0	640.1	20.3	45.3	59.5	82.2	104.0	5379.0	11436.0
31029253340000	-78.92770	42.5815	23.3	723.3	19.7	44.2	58.6	80.8	102.2	5395.0	11456.0
31029253350000	-78.91300	42.5700	23.8	760.8	19.5	43.5	58.0	79.9	101.1	5399.0	11461.0
31029254530000	-78.68450	42.5825	24.7	824.8	19.1	42.7	57.4	79.0	99.9	5409.0	11474.0
31029254560000	-78.79470	42.5097	26.4	940.0	18.5	41.4	56.2	77.3	97.7	5426.0	11496.0
31029255950000	-78.82710	42.5692	21.1	841.9	14.4	32.2	45.9	63.1	80.2	6065.0	12275.0
31029256020000	-78.82510	42.5261	23.4	922.9	15.6	34.9	49.0	67.3	85.4	5874.0	12049.0
31029256480000	-78.87500	42.5798	21.5	830.3	15.1	33.8	47.7	65.6	83.3	5969.0	12163.0
31029256830000	-78.90820	42.5723	28.0	773.9	24.6	55.1	70.6	97.3	122.6	4704.0	10523.0
31029256840001	-78.85760	42.5848	21.7	844.9	15.1	33.8	47.7	65.6	83.3	5967.0	12160.0

31029257000000	-78.74270	42.6866	27.0	746.2	24.1	54.1	69.3	95.6	120.5	4786.0	10638.0
31029257140000	-78.86470	42.5764	31.4	851.0	26.3	59.1	75.3	103.7	130.5	4377.0	10045.0
31029257400000	-78.79960	42.5796	21.5	829.4	15.0	33.7	47.5	65.4	83.1	5977.0	12171.0
31029257800000	-79.04800	42.5771	17.5	600.2	14.2	31.7	45.0	62.1	79.1	6148.0	12371.0
31029258010000	-78.80010	42.5085	23.6	938.2	15.5	34.8	48.9	67.2	85.3	5873.0	12048.0
31029258810001	-78.75250	42.6829	25.6	735.2	22.5	50.5	65.4	90.2	113.9	5007.0	10943.0
31029259490001	-78.92150	42.5638	23.1	753.2	18.8	42.1	56.4	77.8	98.4	5500.0	11590.0
31029275910000	-78.79350	42.5058	29.9	937.0	22.3	49.7	65.5	90.1	113.5	4845.0	10721.0
31029682400000	-78.50920	42.6911	22.7	764.4	18.0	39.9	54.2	74.6	94.5	5596.0	11710.0
31029682420000	-78.52460	42.6861	21.6	800.4	15.8	34.6	48.6	66.9	84.9	5889.0	12067.0
31029682660000	-78.49690	42.7930	30.9	607.8	36.1	80.9	97.1	134.2	168.4	3637.0	8867.0
31029683730000	-78.85960	42.4568	28.8	953.1	20.7	46.5	61.9	85.1	107.4	5072.0	11031.0
31029684090000	-78.65360	42.7077	18.2	681.5	13.5	30.2	43.5	59.9	76.4	6211.0	12443.0
31029684340000	-78.67420	42.7008	18.9	658.4	15.1	33.8	47.3	65.3	83.0	6020.0	12223.0
31029684400000	-78.51780	42.6884	20.3	748.6	15.1	33.0	46.8	64.4	81.9	5997.0	12195.0
31037045930000	-78.07707	43.0429	35.6	1216.5	21.9	49.1	65.9	90.2	113.5	4704.0	10522.0
31037045930000	-78.07710	43.0429	35.6	1218.6	21.8	48.9	65.8	90.1	113.3	4696.0	10511.0
31037048060000	-78.09132	43.1155	34.4	1039.4	24.4	53.7	70.8	97.1	122.1	4420.0	10109.0
31037048060000	-78.09130	43.1155	34.4	1039.1	24.4	54.7	71.6	98.3	123.6	4442.0	10141.0
31037095240000	-78.24395	42.9001	34.8	1245.7	20.7	44.5	61.8	84.3	105.9	4794.0	10650.0
31037095240000	-78.24400	42.9001	34.8	1245.7	20.7	46.5	63.0	86.3	108.6	4860.0	10742.0
31037095630000	-78.10970	43.0794	23.7	1029.9	14.3	32.0	46.0	63.0	80.0	6035.0	12240.0
31037107760000	-78.16708	42.9205	42.4	1321.3	25.3	55.0	74.1	101.2	126.8	4010.0	9479.0
31037107760000	-78.16710	42.9205	42.4	1321.3	25.3	56.7	75.2	102.9	129.1	4049.0	9540.0
31037135720000	-77.96760	42.8719	19.9	609.6	17.8	39.7	53.5	73.9	93.7	5710.0	11850.0
31037136720000	-77.95159	42.9936	43.6	1279.2	27.0	60.8	79.6	109.0	136.7	3846.0	9214.0
31037136720000	-77.95160	42.9936	43.6	1281.1	27.0	60.5	79.4	108.8	136.4	3830.0	9188.0
31037206870000	-78.23702	43.0521	43.5	1408.2	24.5	56.5	74.2	101.7	127.8	4260.0	9867.0
31037206870000	-78.23702	43.0521	43.4	1407.3	24.5	56.5	74.2	101.7	127.8	4258.0	9866.0
31037206870000	-78.23702	43.0521	37.4	1227.1	23.1	52.3	69.4	95.1	119.6	4512.0	10246.0
31037206870000	-78.23700	43.0521	43.4	1407.3	24.5	55.4	73.7	100.9	126.6	4151.0	9699.0
31037206870000	-78.23700	43.0521	37.1	1204.0	23.3	50.2	68.1	93.1	116.8	4416.0	10103.0
31037239330000	-78.43950	42.9487	18.2	609.6	15.1	33.8	47.2	65.2	82.9	6038.0	12243.0
31039039040000	-74.23029	42.3336	34.6	1463.6	17.5	51.3	69.7	95.5	120.0	4376.0	10149.0
31051040690000	-77.93186	42.8716	45.1	1385.0	26.1	53.4	74.7	101.0	126.0	3853.0	9225.0

31051040690000	-77.93190	42.8716	45.1	1385.6	26.1	54.3	75.3	102.0	127.3	3876.0	9263.0
31051044950000	-77.95060	42.8269	29.9	651.4	32.2	67.0	84.1	115.6	145.1	3964.0	9406.0
31051045520000	-77.93674	42.8354	17.3	626.1	13.3	23.4	38.4	51.4	65.0	6327.0	12575.0
31051046300000	-77.75570	42.6503	57.4	1943.4	24.9	55.6	76.7	104.0	129.7	3921.0	9337.0
31051109200000	-77.75270	42.7859	25.6	767.2	21.6	45.0	60.7	83.3	105.0	5104.0	11075.0
31051109220000	-77.64460	42.8349	24.7	709.0	22.2	46.1	61.7	84.7	106.8	5083.0	11047.0
31051114020000	-77.82700	42.6317	33.2	955.6	25.4	52.8	70.7	96.6	121.1	4391.0	10065.0
31051114030000	-77.95260	42.7259	26.5	791.6	22.1	46.0	62.0	85.0	107.0	5016.0	10956.0
31051137000000	-77.89168	42.6973	57.9	1942.8	25.2	53.0	76.5	102.9	127.9	3631.0	8857.0
31051137000000	-77.89168	42.6973	27.0	791.9	22.8	40.0	60.8	81.2	101.1	4442.0	10141.0
31051137000000	-77.89170	42.6973	57.9	1946.2	25.2	58.4	77.9	106.2	132.9	4096.0	9614.0
31051137000000	-77.89170	42.6973	27.1	793.1	22.8	44.4	62.0	84.3	105.8	4765.0	10608.0
31051138410000	-77.95260	42.7351	26.1	804.7	21.3	44.3	60.2	82.4	103.9	5117.0	11092.0
31051138670000	-77.90530	42.7634	22.3	659.6	20.2	41.7	56.7	77.9	98.4	5383.0	11440.0
31051144820000	-77.79960	42.7631	21.4	749.8	16.6	34.5	49.1	67.3	85.3	5799.0	11960.0
31051151900000	-77.92230	42.5628	36.5	1033.6	26.6	55.4	74.3	101.3	126.8	4131.0	9669.0
31051151910000	-77.95770	42.5556	32.3	1134.8	20.5	42.8	60.1	81.7	102.7	4973.0	10897.0
31051153700000	-77.67670	42.5901	40.4	1245.4	25.2	52.4	72.1	98.0	122.5	4134.0	9673.0
31051153720000	-77.79040	42.5452	42.4	1322.2	25.3	52.6	72.8	98.8	123.5	4052.0	9545.0
31051153790000	-77.79790	42.5631	36.5	1199.4	22.9	47.6	66.1	89.9	112.6	4535.0	10278.0
31051157370000	-77.95200	42.7160	23.7	790.4	18.6	38.7	53.9	73.8	93.3	5504.0	11595.0
31051160800000	-77.86850	42.7879	39.9	1296.3	23.8	49.7	69.1	93.7	117.3	4308.0	9940.0
31051196090000	-77.92350	42.7404	21.2	732.1	16.6	34.4	49.0	67.2	85.1	5801.0	11962.0
31051196100000	-77.95460	42.7587	21.9	747.1	17.3	35.9	50.7	69.5	88.0	5700.0	11838.0
31051196110000	-77.94960	42.7546	22.0	751.3	17.3	35.9	50.7	69.4	87.9	5700.0	11838.0
31051196120000	-77.94360	42.7556	21.6	721.2	17.4	35.9	50.7	69.5	88.0	5701.0	11840.0
31051196330000	-77.92090	42.7441	20.0	730.9	15.1	31.3	45.6	62.5	79.4	6000.0	12199.0
31051196790000	-77.94770	42.7579	23.4	769.0	18.7	39.1	54.2	74.3	93.9	5506.0	11597.0
31051214060000	-77.89150	42.6942	21.5	814.7	15.3	30.6	45.4	62.0	78.5	5936.0	12123.0
31051230030000	-77.88153	42.8862	38.6	1518.8	19.5	40.9	59.3	80.2	100.5	4932.0	10842.0
31051230030000	-77.88150	42.8862	38.6	1518.8	19.5	40.7	59.2	79.9	100.1	4921.0	10826.0
31053039700000	-75.65011	42.8049	28.8	1017.1	19.5	39.4	57.4	77.6	97.3	4979.0	10905.0
31053039700000	-75.65010	42.8049	28.8	1017.4	19.5	42.4	58.2	79.7	100.5	5225.0	11235.0
31053040310000	-75.64760	42.8208	24.1	980.0	15.5	33.7	48.2	66.0	83.7	5872.0	12047.0
31053040330000	-75.36225	42.8637	16.5	716.9	10.5	20.5	33.9	45.8	58.4	6604.0	12903.0

31053040450000	-75.65935	42.8263	26.1	961.6	17.8	35.6	52.6	71.1	89.3	5348.0	11395.0
31053040450000	-75.65940	42.8263	26.9	995.8	17.9	39.3	54.5	74.7	94.4	5489.0	11576.0
31053040450000	-75.65940	42.8263	26.1	962.1	17.8	38.8	53.9	73.8	93.3	5520.0	11615.0
31053040470000	-75.65760	42.8090	63.2	1738.3	31.2	68.7	92.6	125.9	157.0	2932.0	7599.0
31053040490000	-75.64824	42.8293	22.9	870.8	16.0	31.3	47.4	63.9	80.5	5739.0	11886.0
31053040490000	-75.64820	42.8293	22.4	837.3	16.0	34.4	48.8	67.0	84.9	5837.0	12005.0
31053040850000	-75.68630	42.8798	24.3	909.0	16.8	36.5	51.2	70.2	88.9	5696.0	11833.0
31053045000000	-75.64350	42.8130	33.6	1025.0	24.0	52.4	69.5	95.3	119.7	4520.0	10257.0
31053045560000	-75.33538	42.8667	17.0	674.8	11.8	23.5	37.4	50.6	64.3	6439.0	12737.0
31053067820000	-75.68940	42.7860	34.6	1055.5	24.3	52.8	70.2	96.1	120.7	4452.0	10156.0
31053095780000	-75.80746	42.9512	49.9	1489.9	27.5	60.9	81.4	111.0	138.8	3653.0	8894.0
31053095780000	-75.80746	42.9512	28.7	791.6	24.9	49.3	68.1	92.7	116.1	4254.0	9859.0
31053095780000	-75.80750	42.9512	37.8	1494.1	19.3	43.2	60.1	81.9	103.1	5050.0	11002.0
31053194850000	-75.41849	42.8088	50.0	1548.4	26.5	57.5	78.6	106.9	133.5	3663.0	8911.0
31053194850000	-75.41850	42.8088	50.1	1550.5	26.5	57.6	78.6	107.0	133.6	3669.0	8921.0
31053204110000	-75.72910	42.8575	47.2	1596.8	23.9	52.5	72.3	98.3	123.0	4071.0	9575.0
31053204110000	-75.72910	42.8575	47.2	1596.9	23.9	52.2	72.2	98.1	122.7	4050.0	9542.0
31053204400000	-75.63280	42.8377	26.7	882.7	20.0	43.6	59.0	81.0	102.2	5233.0	11246.0
31053216980000	-75.60800	42.8370	24.7	938.8	16.7	36.4	51.2	70.2	88.8	5698.0	11836.0
31053216990000	-75.59632	42.8100	46.0	1438.7	25.7	54.2	75.3	102.1	127.5	3778.0	9102.0
31053216990000	-75.59630	42.8100	46.0	1438.7	25.7	56.1	76.1	103.7	129.7	3885.0	9278.0
31053217000000	-75.60359	42.8268	24.2	947.6	16.1	32.0	48.2	65.1	81.9	5688.0	11823.0
31053217000000	-75.60360	42.8268	24.2	947.6	16.1	34.8	49.5	67.7	85.8	5785.0	11942.0
31053228170000	-75.59994	42.7953	45.9	947.3	39.0	76.6	103.7	140.6	174.8	2270.0	6255.0
31053228170000	-75.59990	42.7953	46.0	956.5	38.7	84.0	104.8	143.8	179.7	2834.0	7412.0
31053229260000	-75.61130	42.8261	24.2	861.4	17.6	38.0	52.8	72.5	91.7	5601.0	11716.0
31053230520000	-75.62740	42.7832	26.1	999.4	17.1	37.1	52.2	71.4	90.3	5611.0	11728.0
31053230910000	-75.64242	43.0283	27.7	1119.8	16.7	36.4	51.6	70.6	89.2	5627.0	11748.0
31053230910000	-75.64240	43.0283	32.7	1119.8	21.1	46.0	62.7	85.8	107.9	4884.0	10775.0
31053238390000	-75.38810	42.8432	75.5	2670.4	24.9	54.4	80.2	107.7	133.7	3224.0	8144.0
31053238580000	-75.62310	42.7709	28.9	1082.7	18.3	40.0	55.6	76.1	96.0	5370.0	11424.0
31053238650000	-75.65170	42.8178	27.6	990.0	18.8	41.0	56.5	77.4	97.7	5351.0	11399.0
31053238850000	-75.65420	42.8147	28.8	999.4	19.9	42.1	58.2	79.6	100.3	5160.0	11149.0
31053239000000	-75.60890	42.7741	28.7	946.1	20.8	45.4	61.2	83.9	105.8	5076.0	11037.0
31055045020000	-77.96485	43.3311	20.2	666.0	16.8	38.1	51.8	71.5	90.8	5871.0	12046.0

31055045020000	-77.96490	43.3311	32.9	665.1	36.0	74.8	92.8	127.5	159.7	3546.0	8711.0
31055047240000	-77.97494	43.1510	24.4	997.9	15.4	31.4	46.6	63.4	80.2	5874.0	12049.0
31055047240000	-77.97490	43.1510	24.6	1017.4	15.4	32.1	47.1	64.3	81.3	5870.0	12045.0
31055109210000	-77.95263	43.3334	15.8	670.0	10.1	23.3	36.3	50.1	64.3	6391.0	12692.0
31063047190000	-78.51255	43.3360	27.8	655.6	28.7	70.2	83.6	116.0	146.2	4791.0	10646.0
31063047190000	-78.51260	43.3360	27.8	653.5	28.7	64.3	79.8	110.2	138.6	4340.0	9989.0
31063066670000	-78.46484	43.2076	27.8	816.9	23.0	50.1	65.8	90.5	114.1	4834.0	10706.0
31063066670000	-78.46480	43.2076	27.8	816.9	23.0	51.6	67.0	92.3	116.4	4859.0	10740.0
31063066690000	-79.00651	43.0800	25.7	933.6	17.9	40.9	55.4	76.2	96.5	5547.0	11649.0
31063066690000	-79.00650	43.0800	25.7	933.6	17.9	40.1	54.8	75.4	95.4	5516.0	11609.0
31065039280000	-75.42618	42.8680	42.0	1330.8	24.8	52.4	72.1	98.0	122.6	4078.0	9585.0
31065039280000	-75.42620	42.8680	42.0	1330.8	24.8	54.1	73.1	99.6	124.8	4129.0	9666.0
31065195730000	-75.37150	42.8734	20.7	702.6	16.7	36.1	50.2	69.1	87.7	5805.0	11966.0
31067023980000	-76.32361	43.1463	26.0	794.3	21.4	45.9	62.2	85.1	107.2	4964.0	10886.0
31067023980000	-76.32360	43.1463	26.0	794.3	21.4	46.5	61.8	85.0	107.3	5113.0	11086.0
31067116540000	-76.23820	42.8984	27.3	929.3	19.7	42.9	58.5	80.2	101.1	5244.0	11261.0
31067116550000	-76.30740	42.9449	23.2	794.6	17.9	38.8	53.4	73.4	92.9	5600.0	11715.0
31067119460000	-76.22560	42.9642	19.7	707.8	15.1	32.9	46.7	64.2	81.7	6006.0	12205.0
31067121480000	-76.17320	42.7896	41.7	1265.2	25.9	54.9	76.5	103.7	129.4	3694.0	8962.0
31067121630000	-76.34552	42.9370	40.2	1272.5	24.5	52.7	72.5	98.5	123.3	4060.0	9557.0
31067121630000	-76.34550	42.9370	40.2	1273.8	24.5	53.5	72.0	98.3	123.3	4233.0	9827.0
31067155840000	-76.47113	43.1549	32.4	1076.6	21.7	47.9	64.3	88.1	110.9	4858.0	10738.0
31067155840000	-76.47110	43.1549	32.1	1076.6	21.5	46.8	63.4	86.8	109.2	4870.0	10756.0
31067213350000	-76.35257	43.0661	30.2	1232.6	17.2	38.1	53.6	73.3	92.5	5501.0	11591.0
31067213350000	-76.35260	43.0661	30.6	1264.9	17.1	37.3	53.1	72.4	91.3	5493.0	11580.0
31067213360000	-76.40045	43.1228	27.3	1132.6	16.1	35.7	50.7	69.3	87.7	5720.0	11863.0
31067213360000	-76.40050	43.1228	28.1	1193.6	16.0	35.0	50.1	68.4	86.5	5717.0	11860.0
31067228090000	-76.46663	43.1652	26.5	912.6	19.2	40.6	56.2	76.9	97.1	5313.0	11350.0
31067228090000	-76.46660	43.1652	26.9	940.6	19.1	41.6	57.0	78.1	98.6	5342.0	11387.0
31067229650000	-76.34177	42.8995	54.1	1612.4	28.0	61.0	83.0	112.8	140.8	3407.0	8471.0
31067229650000	-76.34180	42.8995	54.1	1612.4	28.0	60.8	82.9	112.7	140.6	3398.0	8454.0
31067229650100	-76.34177	42.8995	54.0	1608.4	28.0	61.0	83.0	112.9	140.9	3402.0	8462.0
31067229650100	-76.34180	42.8995	54.4	1647.1	27.6	60.3	82.2	111.8	139.5	3441.0	8531.0
31067229710000	-76.34692	42.9204	53.0	1565.8	28.1	61.4	83.1	113.1	141.2	3430.0	8511.0
31067229710000	-76.34690	42.9204	53.0	1563.6	28.1	65.1	84.4	115.5	144.7	3742.0	9044.0

31067229710100	-76.34692	42.9204	57.1	1636.8	29.4	64.7	87.2	118.6	148.0	3233.0	8159.0
31067229710100	-76.34690	42.9204	57.2	1645.0	29.3	68.2	88.0	120.5	150.8	3574.0	8760.0
31067231660000	-76.17372	42.7934	61.0	2037.3	25.5	56.3	78.9	106.9	133.2	3535.0	8694.0
31067231660000	-76.17370	42.7934	61.0	2037.3	25.5	55.6	78.7	106.4	132.6	3475.0	8590.0
31067238570000	-76.21680	42.7759	41.7	1452.4	22.5	49.0	67.8	92.2	115.5	4397.0	10074.0
31067238680000	-76.35460	42.9262	28.1	862.6	22.1	46.9	63.0	86.4	108.8	4930.0	10839.0
31067238950000	-76.34890	42.9313	21.3	820.5	15.0	32.4	46.8	64.1	81.2	5940.0	12128.0
31069038780000	-77.44060	42.7853	22.8	914.4	15.1	31.3	46.0	62.8	79.6	5947.0	12136.0
31069039470000	-77.48378	42.7880	24.8	788.2	20.0	35.1	54.0	72.2	90.2	5026.0	10969.0
31069039470000	-77.48380	42.7880	24.8	788.2	20.0	41.6	57.1	78.2	98.7	5306.0	11341.0
31069039780000	-77.46320	42.7972	32.1	904.3	25.6	53.3	70.9	97.0	121.7	4419.0	10108.0
31069039850000	-77.47060	42.7943	30.6	894.9	24.2	50.5	67.6	92.4	116.1	4633.0	10421.0
31069040050000	-77.49410	42.8013	25.5	791.0	20.9	43.6	59.3	81.3	102.5	5185.0	11182.0
31069040230000	-77.48490	42.7988	25.9	806.8	20.9	36.7	56.0	74.9	93.5	4864.0	10747.0
31069040230000	-77.48490	42.7988	25.9	807.7	20.9	43.5	59.3	81.2	102.4	5165.0	11156.0
31069040360000	-77.49479	42.8094	22.6	751.0	18.0	31.6	49.4	66.0	82.7	5428.0	11498.0
31069040360000	-77.49480	42.8094	22.6	752.3	18.0	37.5	52.4	71.9	90.9	5600.0	11715.0
31069040410000	-77.43316	42.7880	31.9	954.9	23.9	42.0	63.2	84.6	105.2	4278.0	9895.0
31069040410000	-77.43320	42.7880	31.9	958.3	23.9	49.8	67.2	91.8	115.3	4603.0	10377.0
31069040800000	-77.50600	42.7837	21.3	723.0	17.0	35.3	49.9	68.4	86.7	5752.0	11902.0
31069044490000	-77.19630	42.8688	21.1	725.4	16.6	34.5	49.0	67.2	85.2	5802.0	11963.0
31069047600000	-77.27954	42.9895	42.9	1312.2	25.8	53.3	73.8	100.1	125.0	3970.0	9415.0
31069047600000	-77.27950	42.9895	42.9	1312.2	25.8	53.7	74.1	100.5	125.6	3980.0	9430.0
31069048710000	-77.33506	43.0216	37.5	1326.5	21.5	45.0	63.4	86.1	107.8	4691.0	10503.0
31069048710000	-77.33510	43.0216	37.5	1326.8	21.5	44.7	63.3	85.8	107.5	4678.0	10485.0
31069049470000	-77.36747	42.8393	23.5	813.2	17.8	31.2	48.8	65.2	81.7	5483.0	11567.0
31069049470000	-77.36750	42.8393	23.5	813.2	17.8	37.0	52.1	71.3	90.2	5602.0	11717.0
31069114280000	-77.11350	42.8972	24.3	646.5	23.7	49.3	64.8	89.1	112.3	4951.0	10868.0
31069120380000	-77.36740	42.8895	21.0	646.8	18.5	38.6	53.2	73.1	92.6	5600.0	11715.0
31069120410000	-77.42590	42.8283	24.7	749.2	21.0	43.7	59.3	81.3	102.6	5198.0	11199.0
31069120420000	-77.38850	42.8415	25.5	761.7	21.6	45.1	60.8	83.4	105.1	5102.0	11072.0
31069121620000	-77.45040	42.8166	26.9	857.7	20.8	43.4	59.4	81.3	102.5	5134.0	11114.0
31069121950000	-77.50830	42.8685	19.3	645.0	16.0	33.2	47.3	65.1	82.6	5921.0	12105.0
31069142960000	-77.35290	42.8961	20.7	625.8	18.7	38.7	53.3	73.3	92.8	5600.0	11714.0
31069152830000	-77.18020	42.8106	28.6	784.9	25.0	52.1	68.7	94.2	118.4	4635.0	10423.0

31069154050000	-77.20070	42.7990	29.3	794.3	25.6	52.8	69.8	95.5	120.1	4538.0	10283.0
31069154410000	-77.37290	42.9151	21.2	625.5	19.5	40.6	55.3	76.0	96.2	5489.0	11576.0
31069205380000	-77.00810	42.7701	28.8	877.8	22.6	47.0	63.6	87.0	109.5	4865.0	10748.0
31069205450000	-77.01010	42.7847	25.9	867.8	19.5	40.6	56.3	77.0	97.2	5324.0	11364.0
31069214650000	-77.45380	42.8875	27.1	680.9	26.5	55.0	71.3	97.9	123.2	4557.0	10311.0
31069215010000	-77.53570	42.8153	28.9	726.3	27.3	56.9	73.7	101.1	127.0	4404.0	10085.0
31069215030000	-77.53830	42.7950	29.5	773.3	26.6	55.3	72.3	99.1	124.5	4440.0	10139.0
31069229430000	-77.19140	42.8889	37.4	1513.3	18.8	39.0	57.2	77.2	96.8	5055.0	11009.0
31069229430000	-77.19140	42.8889	38.0	1513.3	19.2	39.8	58.2	78.5	98.4	4984.0	10912.0
31069229430000	-77.19140	42.8889	38.1	1521.9	19.1	39.9	58.2	78.6	98.4	4992.0	10923.0
31069229430000	-77.19140	42.8889	37.4	1513.0	18.8	39.1	57.3	77.3	96.9	5057.0	11011.0
31069229850000	-77.21326	42.7909	54.0	1765.1	25.5	53.0	76.1	102.5	127.5	3666.0	8916.0
31069229850000	-77.21330	42.7909	54.0	1765.1	25.5	54.0	76.5	103.2	128.6	3729.0	9021.0
31069229850100	-77.21326	42.7909	51.8	1609.0	26.6	53.4	77.1	103.6	128.7	3544.0	8709.0
31069229850100	-77.21330	42.7909	51.9	1618.5	26.5	55.1	77.9	105.1	130.8	3611.0	8822.0
31069229850200	-77.21326	42.7909	49.1	1612.1	24.9	49.9	72.6	97.5	121.3	3830.0	9189.0
31069229850200	-77.21330	42.7909	49.7	1670.3	24.4	51.0	72.7	98.1	122.3	3945.0	9374.0
31069261310000	-77.45800	42.8925	21.5	683.4	18.4	38.1	52.8	72.5	91.8	5599.0	11714.0
31069261320000	-77.46340	42.8873	21.3	664.2	18.5	38.2	52.9	72.7	92.0	5599.0	11714.0
31069261500000	-77.04460	42.7848	30.1	849.8	24.8	51.7	68.7	94.1	118.2	4580.0	10345.0
31071130290000	-74.56530	41.4252	79.5	3015.1	23.4	58.2	77.4	106.7	134.7	3141.0	8176.0
31071130290000	-74.56530	41.4252	17.6	608.4	14.2	47.3	64.3	89.2	112.2	4197.0	10496.0
31071130290000	-74.56530	41.4252	79.5	3013.9	23.4	60.9	77.0	107.0	135.1	3932.0	9354.0
31071130290000	-74.56530	41.4252	17.6	608.4	14.2	43.3	58.0	79.9	101.1	5409.0	11545.0
31073046110000	-78.25801	43.1910	24.5	927.2	16.7	37.0	51.5	70.8	89.6	5694.0	11831.0
31073046110000	-78.25800	43.1910	24.0	926.9	16.1	36.2	50.4	69.3	87.9	5785.0	11942.0
31073047300000	-78.15242	43.1803	29.5	965.3	21.2	47.4	63.1	86.7	109.3	4986.0	10915.0
31073047300000	-78.15240	43.1803	29.5	965.9	21.2	47.6	63.2	86.9	109.5	4989.0	10919.0
31073050860000	-78.03368	43.3081	21.4	745.2	16.6	38.0	51.7	71.4	90.6	5821.0	11986.0
31073050860000	-78.03370	43.3081	21.4	746.2	16.6	37.2	51.1	70.4	89.3	5799.0	11959.0
31073095400000	-78.03729	43.1886	23.2	872.9	16.3	35.0	49.5	67.8	86.0	5783.0	11939.0
31073095400000	-78.03730	43.1886	23.2	875.4	16.3	36.5	50.6	69.6	88.3	5787.0	11945.0
31075042080000	-76.10293	43.3263	17.1	682.8	11.9	25.0	38.3	52.5	67.1	6371.0	12669.0
31075042090000	-76.34729	43.3188	27.0	789.4	22.8	49.0	64.8	89.0	112.2	4909.0	10809.0
31075042090000	-76.34730	43.3188	27.0	789.7	22.8	49.6	65.3	89.7	113.1	4918.0	10821.0

31075156130000	-76.08900	43.3514	20.4	680.3	16.7	35.3	49.6	68.1	86.4	5803.0	11964.0
31075156130000	-76.08900	43.3514	21.4	707.8	17.5	38.2	52.4	72.1	91.4	5706.0	11845.0
31075230700000	-76.27366	43.3649	19.2	747.1	13.6	29.2	42.9	58.9	75.0	6188.0	12417.0
31075230710000	-76.29772	43.2940	27.4	818.7	22.5	49.0	64.7	88.9	112.0	4930.0	10838.0
31075230710000	-76.29770	43.2940	27.4	818.7	22.5	49.0	64.7	88.9	112.1	4932.0	10841.0
31077040550000	-74.70775	42.6310	46.0	1677.0	22.1	54.9	69.8	96.3	121.4	5069.0	11027.0
31077040550000	-74.70780	42.6310	45.9	1677.3	22.0	46.9	66.9	90.4	113.0	4345.0	9997.0
31077101380000	-75.09458	42.6935	25.9	830.0	20.4	44.2	62.9	85.2	106.7	4724.0	10551.0
31077101380000	-75.09460	42.6935	25.9	830.0	20.4	43.5	59.0	80.9	102.1	5219.0	11228.0
31077107250000	-75.24640	42.5301	38.9	1212.5	24.6	53.4	78.1	104.8	130.2	3495.0	8625.0
31077107250000	-75.24640	42.5301	39.4	1212.5	25.1	53.5	72.4	98.7	123.6	4180.0	9746.0
31077107250000	-75.24640	42.5301	38.9	1212.2	24.6	52.5	71.3	97.1	121.7	4251.0	9854.0
31077108340000	-75.04771	42.5804	54.6	1775.2	25.7	57.4	78.2	106.3	132.8	3823.0	9176.0
31077108340000	-75.04770	42.5804	54.7	1779.4	25.7	54.8	77.3	104.4	130.1	3625.0	8847.0
31077108380000	-75.37421	42.3292	43.6	1778.5	19.4	41.6	66.5	88.7	109.2	4047.0	9583.0
31077108380000	-75.37421	42.3292	48.0	1776.7	21.9	47.0	74.0	99.2	122.1	3313.0	8604.0
31077108380000	-75.37420	42.3292	48.0	1776.7	21.9	46.8	67.2	90.7	113.3	4288.0	9910.0
31095102630000	-74.61947	42.4425	40.6	1304.5	24.2	52.4	71.1	96.9	121.5	4293.0	9919.0
31095102630000	-74.61950	42.4425	40.5	1303.6	24.2	51.6	70.7	96.2	120.5	4239.0	9836.0
31097002690000	-77.01231	42.4745	20.6	618.1	18.7	32.8	54.0	70.7	87.4	5019.0	10961.0
31097002690000	-77.01230	42.4745	20.6	618.1	18.7	39.0	53.5	73.6	93.2	5602.0	11717.0
31097003000000	-77.03605	42.4735	23.5	634.9	22.8	40.0	64.0	84.3	104.1	4092.0	9608.0
31097003000000	-77.03610	42.4735	23.5	634.9	22.8	47.4	62.7	86.2	108.8	5075.0	11035.0
31097003730000	-77.03660	42.4710	24.6	629.1	24.8	51.5	67.2	92.4	116.3	4833.0	10705.0
31097004480000	-77.01324	42.4654	22.7	604.1	22.6	39.7	63.8	84.0	103.7	4100.0	9620.0
31097004480000	-77.01320	42.4654	22.7	604.1	22.6	45.2	60.8	83.4	105.2	5091.0	11057.0
31097004490000	-77.04125	42.4714	22.1	606.2	21.7	38.0	61.2	80.5	99.5	4335.0	9981.0
31097004490000	-77.04130	42.4714	22.1	606.3	21.7	45.1	60.1	82.7	104.4	5241.0	11256.0
31097004500000	-77.04124	42.4696	17.2	611.7	13.5	23.6	40.9	53.1	65.9	6353.0	12603.0
31097004880000	-76.72000	42.3334	22.7	604.1	22.6	46.0	61.3	84.3	106.3	5117.0	11091.0
31097005380000	-76.99928	42.4685	20.0	672.7	16.3	28.7	48.4	63.1	78.0	5602.0	11718.0
31097005380000	-76.99930	42.4685	25.2	667.2	24.3	49.6	65.6	90.0	113.4	4845.0	10721.0
31097005400000	-76.99929	42.4735	24.2	655.6	23.2	40.6	65.4	86.0	106.0	3971.0	9416.0
31097005400000	-76.99930	42.4735	24.2	655.6	23.2	48.3	63.8	87.7	110.6	5015.0	10954.0
31097005590000	-77.03328	42.4691	23.4	637.9	22.6	39.6	63.5	83.7	103.3	4130.0	9667.0

31097005590000	-77.03330	42.4691	23.4	637.6	22.6	47.1	62.3	85.7	108.1	5099.0	11068.0
31097005620000	-77.01195	42.4768	22.4	628.8	21.3	37.3	60.4	79.4	98.1	4402.0	10082.0
31097005620000	-77.01200	42.4768	22.4	628.8	21.3	44.5	59.5	81.8	103.3	5276.0	11302.0
31097005720000	-77.02640	42.4721	17.4	638.3	13.2	23.1	40.3	52.2	64.8	6417.0	12675.0
31097006380000	-77.07426	42.4551	24.6	642.5	24.4	42.7	68.2	89.9	110.8	3742.0	9044.0
31097006380000	-77.07430	42.4551	24.6	642.5	24.4	49.0	65.0	89.2	112.3	4851.0	10728.0
31097006430000	-77.02566	42.4698	24.4	636.7	24.3	42.5	67.7	89.3	110.2	3782.0	9109.0
31097006430000	-77.02570	42.4698	24.4	636.7	24.3	50.7	66.2	91.0	114.7	4900.0	10797.0
31097010740000	-77.01768	42.4741	21.8	612.0	21.0	36.8	59.6	78.4	96.8	4475.0	10190.0
31097010740000	-77.01770	42.4741	21.8	612.0	21.0	43.4	58.3	80.2	101.3	5318.0	11357.0
31097010760000	-77.02827	42.4651	24.4	653.5	23.6	41.4	66.2	87.2	107.6	3908.0	9315.0
31097010760000	-77.02830	42.4651	24.4	653.5	23.6	47.1	63.3	86.7	109.1	4883.0	10774.0
31097010790000	-77.02430	42.4774	24.4	636.7	24.3	50.7	66.2	91.0	114.7	4899.0	10796.0
31097010800000	-77.00451	42.4772	24.1	658.1	23.0	40.3	64.8	85.2	105.1	4023.0	9499.0
31097010800000	-77.00450	42.4772	24.1	658.1	23.0	48.9	64.1	88.2	111.3	5073.0	11033.0
31097010810000	-77.00540	42.4729	22.4	613.3	21.9	46.0	61.0	83.9	105.9	5224.0	11234.0
31097010820000	-77.00490	42.4820	30.4	654.7	32.8	68.2	85.5	117.5	147.3	3895.0	9293.0
31097010830000	-77.03132	42.4754	24.4	643.7	24.0	42.1	66.9	88.3	109.0	3847.0	9216.0
31097010830000	-77.03130	42.4754	24.4	643.7	24.0	49.9	65.5	90.0	113.5	4918.0	10822.0
31097010840000	-77.03865	42.4726	22.7	623.0	22.0	38.5	61.9	81.5	100.7	4273.0	9887.0
31097010840000	-77.03870	42.4726	22.7	623.0	22.0	45.7	60.8	83.6	105.6	5191.0	11191.0
31097010850000	-77.03940	42.4779	24.1	640.7	23.5	41.2	65.7	86.6	107.0	3951.0	9384.0
31097010850000	-77.03940	42.4779	24.1	640.7	23.5	48.0	63.6	87.4	110.1	4969.0	10891.0
31097010860000	-77.03866	42.4672	23.2	633.4	22.5	39.4	63.2	83.2	102.8	4156.0	9708.0
31097010860000	-77.03870	42.4672	23.2	633.7	22.5	46.1	61.4	84.4	106.5	5110.0	11083.0
31097010860000	-77.03870	42.4672	20.9	631.6	18.8	38.5	53.2	73.0	92.4	5575.0	11683.0
31097010870000	-77.01713	42.4839	30.6	638.6	33.8	59.3	91.3	121.2	149.3	2406.0	6414.0
31097010870000	-77.01710	42.4839	30.6	638.6	33.8	70.2	87.5	120.3	150.8	3807.0	9150.0
31097010890000	-77.00719	42.4684	24.3	667.5	22.9	40.2	64.7	85.2	105.1	4024.0	9501.0
31097010890000	-77.00720	42.4684	24.3	667.5	22.9	47.8	63.3	87.0	109.7	5028.0	10972.0
31097010950000	-77.08673	42.4821	22.2	600.2	22.0	38.6	62.1	81.8	101.0	4250.0	9853.0
31097010950000	-77.08670	42.4821	22.2	600.2	22.0	46.3	61.2	84.3	106.4	5221.0	11229.0
31097011960000	-77.01935	42.4715	23.9	603.2	24.8	43.4	69.0	91.0	112.3	3684.0	8946.0
31097011960000	-77.01940	42.4715	23.9	603.2	24.8	51.0	66.6	91.5	115.3	4866.0	10750.0
31097018110000	-77.01825	42.4698	22.0	603.5	21.5	37.8	61.0	80.2	99.1	4351.0	10005.0

31097018110000	-77.01830	42.4698	22.0	603.5	21.5	44.5	59.5	81.8	103.3	5260.0	11281.0
31097018120000	-77.03328	42.4723	22.4	630.6	21.3	37.3	60.2	79.2	97.9	4424.0	10115.0
31097018120000	-77.03330	42.4723	24.2	636.1	23.8	49.6	65.1	89.5	112.8	4946.0	10860.0
31097018130000	-77.03810	42.4751	21.1	638.9	18.9	39.4	54.0	74.2	94.0	5556.0	11660.0
31097026430000	-77.00930	42.4694	23.8	655.3	22.6	47.3	62.6	86.1	108.6	5095.0	11063.0
31097026440000	-77.00730	42.4742	23.6	653.8	22.3	39.2	63.2	83.1	102.5	4160.0	9713.0
31097026440000	-77.00730	42.4742	23.8	669.0	22.2	47.7	62.7	86.2	108.9	5175.0	11169.0
31097026440000	-77.00730	42.4742	23.5	654.1	22.2	47.6	62.6	86.2	108.8	5172.0	11165.0
31097026440000	-77.00730	42.4742	23.0	652.3	21.5	46.0	60.9	83.8	105.8	5262.0	11284.0
31097026450000	-77.01008	42.4762	21.9	639.2	20.2	35.5	57.9	75.9	93.8	4642.0	10434.0
31097026450000	-77.01010	42.4762	21.9	639.2	20.2	42.7	57.4	79.0	99.9	5408.0	11472.0
31097026460000	-77.03084	42.4682	23.9	641.0	23.3	40.8	65.2	85.9	106.1	3988.0	9444.0
31097026460000	-77.03080	42.4682	23.9	641.0	23.3	48.5	63.9	87.8	110.8	5017.0	10958.0
31097026470000	-77.03011	42.4707	23.8	640.1	23.2	40.6	65.0	85.6	105.7	4006.0	9473.0
31097026470000	-77.03010	42.4707	23.8	640.1	23.2	48.3	63.7	87.6	110.4	5026.0	10970.0
31097093800000	-77.03978	42.4739	20.3	617.8	18.3	32.1	52.9	69.3	85.8	5125.0	11102.0
31097093800000	-77.03980	42.4739	20.3	617.8	18.3	38.1	52.6	72.3	91.6	5644.0	11770.0
31097093820000	-77.00266	42.4726	22.2	663.5	19.9	34.9	57.2	74.9	92.5	4713.0	10534.0
31097093820000	-77.00270	42.4726	22.2	663.6	19.9	42.0	56.8	78.1	98.7	5434.0	11506.0
31097093830000	-77.02735	42.4750	24.4	637.9	24.2	42.4	67.4	88.9	109.7	3810.0	9155.0
31097093830000	-77.02740	42.4750	24.4	638.0	24.2	50.3	65.9	90.6	114.1	4906.0	10805.0
31097093880000	-77.08900	42.4814	20.9	607.2	19.7	41.0	55.6	76.5	96.8	5490.0	11577.0
31097094050000	-77.04191	42.4646	29.4	637.6	32.0	56.1	86.8	115.2	141.9	2577.0	6863.0
31097094050000	-77.04190	42.4646	23.7	638.6	23.0	45.9	61.8	84.7	106.8	4989.0	10919.0
31097094050000	-77.04190	42.4646	29.4	637.6	32.0	63.8	81.7	112.0	140.4	3899.0	9300.0
31097094070000	-77.02586	42.4687	29.1	637.6	31.5	55.2	85.6	113.5	139.8	2633.0	6986.0
31097094070000	-77.02590	42.4687	29.1	637.6	31.5	65.8	82.6	113.6	142.6	4069.0	9571.0
31097094090000	-77.03198	42.4658	24.7	656.2	24.0	42.1	67.1	88.4	109.1	3835.0	9196.0
31097094090000	-77.03200	42.4658	24.7	656.2	24.0	48.0	64.1	87.9	110.6	4858.0	10738.0
31097094100000	-77.01602	42.4771	24.9	611.7	26.0	45.6	72.0	95.1	117.3	3456.0	8556.0
31097094100000	-77.01600	42.4771	24.9	611.7	26.0	53.6	69.4	95.5	120.2	4710.0	10530.0
31097094130000	-77.02070	42.4767	24.1	630.6	23.9	49.9	65.4	89.9	113.3	4949.0	10865.0
31097094130000	-77.02070	42.4767	25.4	626.7	26.2	54.6	70.4	96.8	121.9	4679.0	10486.0
31097094140000	-77.07920	42.4642	21.2	605.5	20.1	41.8	56.5	77.8	98.3	5431.0	11502.0
31097094140000	-77.07920	42.4642	29.2	602.9	33.5	69.5	86.4	118.9	149.1	3897.0	9297.0

31097094160000	-77.02120	42.4712	20.9	624.5	19.0	39.7	54.2	74.6	94.4	5558.0	11662.0
31097094190000	-77.00960	42.4713	23.7	644.0	22.9	48.1	63.3	87.1	109.9	5075.0	11035.0
31097094240000	-76.99347	42.4761	22.7	636.7	21.5	37.7	61.2	80.3	99.1	4333.0	9979.0
31097094240000	-76.99350	42.4761	22.7	636.7	21.5	43.2	58.6	80.4	101.5	5223.0	11233.0
31097119210000	-77.02870	42.3329	26.1	882.4	19.4	34.7	52.7	70.8	88.7	5190.0	11189.0
31097128590000	-76.89730	42.4089	25.8	896.7	18.7	39.5	55.0	75.3	95.1	5438.0	11510.0
31097137960000	-76.93190	42.3887	20.2	740.7	15.1	31.1	45.4	62.2	79.0	5998.0	12197.0
31097196920000	-76.97008	42.4326	74.3	2551.2	25.6	51.0	81.1	107.0	131.6	2949.0	7824.0
31097196920000	-76.97008	42.4326	82.0	2463.7	29.7	59.0	92.7	122.7	150.8	2443.0	6609.0
31097196920000	-76.97010	42.4326	82.0	2463.7	29.7	61.6	92.2	123.1	152.0	2428.0	6928.0
31097204170000	-76.95577	42.4372	83.4	2592.9	28.7	57.3	90.3	119.4	146.9	2530.0	6848.0
31097204170000	-76.95580	42.4372	83.4	2592.9	28.7	60.9	90.5	121.0	149.6	2641.0	7208.0
31097214670000	-76.89950	42.4161	25.0	805.3	19.9	41.1	56.7	77.6	97.9	5307.0	11343.0
31097214950000	-76.71356	42.2700	112.2	3603.0	28.6	59.7	96.8	128.1	157.0	2223.0	6148.0
31097214950000	-76.71356	42.2700	81.3	2920.0	24.8	49.0	80.7	107.1	130.9	2965.0	7617.0
31097214950000	-76.71356	42.2700	44.8	1473.4	24.3	42.6	71.7	95.1	115.9	3425.0	8366.0
31097214950000	-76.71360	42.2700	81.2	2910.8	24.8	52.3	80.9	107.4	132.5	3086.0	8030.0
31097214950000	-76.71360	42.2700	109.8	2834.6	35.6	74.5	112.2	149.9	184.6	1813.0	5191.0
31097217250000	-77.00386	42.4713	80.2	2522.2	28.2	56.9	88.0	116.8	143.9	2592.0	7170.0
31097217250000	-77.00386	42.4713	63.8	2106.8	26.0	51.1	80.1	106.0	130.6	3114.0	7942.0
31097217250000	-77.00390	42.4713	80.2	2519.2	28.3	71.0	88.3	121.4	152.2	4128.0	9665.0
31097217250000	-77.00390	42.4713	63.8	2103.7	26.0	64.5	81.3	111.7	140.3	4423.0	10113.0
31097217260000	-77.00284	42.4761	84.4	2491.4	30.3	60.8	93.6	124.4	153.2	2377.0	6617.0
31097217260000	-77.00280	42.4761	84.4	2488.4	30.3	76.4	93.8	129.0	161.7	3937.0	9361.0
31097227540000	-76.73162	42.4602	79.6	2438.1	29.0	57.8	90.0	119.3	146.8	2511.0	6914.0
31097227540000	-76.73160	42.4602	79.6	2435.1	29.0	60.4	90.2	120.5	148.8	2606.0	7147.0
31097227930000	-76.73551	42.5356	80.3	2295.1	31.1	62.3	94.3	125.7	154.9	2338.0	6620.0
31097227930000	-76.73550	42.5356	80.3	2292.7	31.1	64.7	95.1	127.3	157.4	2391.0	6758.0
31097227940000	-76.70467	42.4734	70.6	2331.7	26.4	52.7	82.3	108.9	134.2	2973.0	7738.0
31097227940000	-76.70470	42.4734	70.5	2329.3	26.4	55.0	82.1	109.7	135.8	3146.0	8001.0
31097227940100	-76.70467	42.4734	72.9	2349.1	27.2	54.3	84.6	112.1	138.1	2775.0	7487.0
31097227940100	-76.70470	42.4734	72.9	2346.7	27.2	56.8	84.5	113.0	139.8	3014.0	7755.0
31097227990000	-77.05824	42.4452	81.9	2449.7	29.8	59.7	92.0	122.2	150.5	2432.0	6762.0
31097227990000	-77.05820	42.4452	81.9	2447.2	29.8	62.5	92.6	123.8	153.1	2480.0	6964.0
31097227990100	-77.05824	42.4452	86.3	2364.0	32.7	65.3	100.0	133.0	163.7	2189.0	6027.0

31097227990100	-77.05820	42.4452	86.7	2413.4	32.2	67.3	99.2	132.7	163.9	2150.0	6369.0
31097228120000	-76.86150	42.3802	21.7	768.7	16.5	34.2	48.9	67.0	84.9	5797.0	11957.0
31097228290000	-77.06024	42.3236	84.1	2803.6	26.8	53.4	86.1	113.7	139.5	2714.0	7176.0
31097228290000	-77.06020	42.3236	84.5	2891.0	26.1	54.7	84.6	112.3	138.6	2748.0	7596.0
31097228300000	-77.08051	42.3061	86.5	2970.3	26.1	52.2	84.9	111.8	137.0	2779.0	7312.0
31097228300000	-77.08050	42.3061	86.5	2968.1	26.1	54.5	85.0	112.7	138.9	2681.0	7493.0
31097228410000	-77.02043	42.3403	78.7	2644.1	26.4	52.4	84.3	111.4	136.7	2792.0	7376.0
31097228410000	-77.02040	42.3403	78.9	2668.2	26.2	54.7	83.5	111.2	137.3	2964.0	7758.0
31097228810000	-76.81578	42.3083	81.1	2761.5	26.1	51.5	84.0	111.5	136.5	2805.0	7252.0
31097228810000	-76.81578	42.3083	24.4	841.6	18.3	32.1	54.9	72.3	88.3	4902.0	10800.0
31097228810000	-76.81580	42.3083	81.0	2759.1	26.1	59.0	84.0	113.2	140.5	3339.0	8350.0
31097228810000	-76.81580	42.3083	24.4	839.1	18.3	32.2	50.6	67.4	84.2	5325.0	11365.0
31097228860000	-76.89582	42.3092	81.7	2784.3	26.1	51.7	84.2	111.6	136.7	2796.0	7268.0
31097228860000	-76.89580	42.3092	82.1	2851.1	25.6	55.7	83.1	111.0	137.4	3175.0	8054.0
31097228860100	-76.89582	42.3092	89.5	2681.9	30.0	59.1	95.2	126.7	155.2	2328.0	6115.0
31097228860100	-76.89580	42.3092	89.6	2702.7	29.8	64.2	94.5	126.6	156.5	2400.0	6904.0
31097228860200	-76.89582	42.3092	88.3	2670.7	29.7	58.4	94.2	125.4	153.6	2368.0	6205.0
31097228860200	-76.89580	42.3092	88.6	2721.3	29.3	63.1	93.0	124.5	153.9	2515.0	7051.0
31097228930000	-76.85974	42.2952	81.7	2772.2	26.2	51.7	84.4	112.1	137.2	2786.0	7205.0
31097228930000	-76.85970	42.2952	81.8	2794.7	26.0	56.9	84.0	112.5	139.3	3154.0	8017.0
31097228930000	-76.85970	42.2952	27.4	1057.7	17.4	30.5	49.9	65.8	81.7	5399.0	11461.0
31097229350000	-76.74683	42.3304	83.9	2670.7	28.0	55.3	89.3	118.6	145.3	2577.0	6719.0
31097229350000	-76.74680	42.3304	84.0	2696.3	27.8	57.9	88.5	117.7	145.3	2542.0	7208.0
31097229350100	-76.74683	42.3304	82.4	2705.7	27.1	53.6	86.8	115.2	141.1	2680.0	6990.0
31097229350100	-76.74680	42.3304	82.5	2720.3	27.0	56.4	86.2	114.8	141.6	2682.0	7440.0
31097229350200	-76.74683	42.3304	77.6	2542.0	27.0	52.7	85.6	113.6	139.1	2735.0	7083.0
31097229350200	-76.74680	42.3304	81.0	3283.3	21.9	47.6	73.9	98.0	121.1	3675.0	8931.0
31097229420000	-76.98908	42.2960	94.1	3069.0	27.7	55.6	90.2	119.0	145.8	2556.0	6742.0
31097229420000	-76.98910	42.2960	94.2	3077.9	27.7	57.7	90.7	120.3	148.0	2492.0	6874.0
31097230040000	-76.90743	42.4448	73.3	2254.9	28.5	56.0	88.5	117.0	143.8	2576.0	6986.0
31097230040000	-76.90743	42.4448	39.8	1332.6	23.1	40.5	67.1	87.7	107.7	3844.0	9211.0
31097230040000	-76.90740	42.4448	73.1	2232.4	28.7	62.7	88.6	119.4	148.2	3051.0	7826.0
31097230040000	-76.90740	42.4448	39.8	1332.6	23.1	45.1	66.7	89.4	111.3	4189.0	9759.0
31097230080000	-76.89656	42.3125	71.1	2412.8	25.8	49.5	81.3	107.7	131.7	2934.0	7514.0
31097230080000	-76.89656	42.3125	44.9	1539.8	23.3	40.9	69.2	91.1	111.2	3593.0	8793.0

31097230080000	-76.89660	42.3125	71.1	2412.8	25.8	55.9	81.2	109.0	135.2	3371.0	8406.0
31097230080000	-76.89660	42.3125	44.9	1539.9	23.3	45.9	68.7	91.9	114.1	4004.0	9468.0
31097230530000	-76.94691	42.3353	72.8	2774.6	23.0	45.7	74.9	98.7	121.1	3290.0	8433.0
31097230530000	-76.94690	42.3353	72.8	2779.5	23.0	48.0	74.7	99.0	122.3	3552.0	8722.0
31097230530100	-76.94691	42.3353	71.8	2788.9	22.5	44.8	73.5	96.8	118.7	3419.0	8612.0
31097230530100	-76.94690	42.3353	72.7	2985.2	21.3	45.3	70.9	93.8	115.9	3851.0	9222.0
31097230720000	-77.09912	42.2835	93.1	2841.7	29.6	58.8	94.8	126.0	154.3	2343.0	6194.0
31097230720000	-77.09912	42.2835	42.5	1617.6	20.7	36.3	62.4	81.6	99.6	4208.0	9788.0
31097230720000	-77.09910	42.2835	86.3	1889.8	40.9	82.7	117.4	157.8	194.8	1733.0	5124.0
31097230860000	-77.04465	42.3034	80.5	2667.3	26.8	53.0	85.7	113.6	139.2	2728.0	7138.0
31097230860000	-77.04465	42.3034	49.9	1688.0	24.2	42.5	71.7	93.9	114.8	3440.0	8527.0
31097230860000	-77.04470	42.3034	80.5	2667.3	26.8	56.3	85.4	113.8	140.6	2856.0	7596.0
31097231520000	-76.93241	42.3428	72.8	2768.8	23.0	45.2	75.0	99.4	121.5	3278.0	8276.0
31097231520000	-76.93144	42.2267	75.2	2443.6	27.1	51.5	85.2	113.1	138.1	2749.0	6986.0
31097231520000	-76.93240	42.3428	75.2	2439.3	27.1	58.4	85.2	114.2	141.6	3097.0	7910.0
31097231590000	-76.93119	42.4354	56.0	1635.3	28.7	50.4	82.5	108.1	132.5	2820.0	7327.0
31097231590000	-76.93120	42.4354	56.0	1641.7	28.7	59.8	83.7	113.1	140.7	3286.0	8256.0
31097232220000	-76.93650	42.4473	55.8	1675.2	28.0	58.1	82.0	110.6	137.6	3346.0	8363.0
31097232230000	-76.95080	42.4492	53.8	1640.4	27.3	56.5	79.9	107.8	134.1	3463.0	8568.0
31097232250000	-76.94450	42.4324	67.6	1679.5	34.9	72.4	100.2	135.3	167.8	2487.0	6714.0
31097232260000	-76.90840	42.4391	54.8	1528.9	30.0	62.1	86.1	116.4	144.8	3183.0	8070.0
31097232300000	-77.07872	42.2808	68.2	2467.1	24.0	46.5	76.6	101.3	124.0	3182.0	8097.0
31097232300000	-77.07872	42.2808	45.4	1483.5	24.6	43.1	72.3	95.4	116.4	3390.0	8365.0
31097232300000	-77.08913	42.2869	23.3	801.3	17.8	31.3	53.5	70.2	85.9	5063.0	11020.0
31097232300000	-77.07870	42.2808	68.2	2466.4	24.0	55.9	76.8	104.2	130.1	4025.0	9502.0
31097232310000	-76.92450	42.4396	58.6	1616.7	30.7	63.7	88.7	119.8	148.8	3025.0	7777.0
31097238130000	-77.04211	42.1931	77.9	2604.2	26.5	51.0	84.3	112.3	137.1	2790.0	7074.0
31097238130000	-77.07250	42.3253	77.9	2602.4	26.5	55.0	83.9	111.7	137.9	2928.0	7692.0
31097238230000	-77.03301	42.3265	53.7	1684.9	26.5	46.6	77.6	101.8	124.5	3095.0	7802.0
31097238230000	-77.02300	42.3265	77.3	2496.9	27.3	59.8	86.2	115.8	143.6	3111.0	7936.0
31097238230100	-77.02300	42.3265	69.0	1554.5	38.6	76.0	108.4	145.6	179.9	1930.0	5703.0
31097238300000	-76.94540	42.3273	67.7	2322.0	25.3	52.0	78.6	104.8	129.6	3325.0	8325.0
31097238360000	-77.06879	42.2928	27.1	832.4	21.7	38.1	63.5	83.9	102.7	4040.0	9525.0
31097238360000	-77.06880	42.2928	27.0	826.9	21.8	43.2	60.1	82.0	103.0	4943.0	10856.0
31097238370000	-77.07390	42.2892	23.4	849.5	17.0	29.8	51.4	67.2	82.2	5313.0	11350.0

31097238370000	-77.07390	42.2892	23.4	849.2	17.0	33.0	49.0	66.4	83.8	5638.0	11762.0
31097238560000	-77.07920	42.2813	28.1	866.2	22.1	38.7	64.5	85.4	104.5	3937.0	9362.0
31097238560000	-77.07920	42.2813	28.1	863.8	22.1	43.0	60.9	82.6	103.7	4793.0	10648.0
31097239300000	-76.93670	42.3427	22.1	798.6	16.5	32.2	47.7	64.8	81.9	5756.0	11906.0
31097239490000	-76.94150	42.3428	25.8	819.0	20.5	41.0	57.2	78.1	98.4	5194.0	11194.0
31097611880000	-76.89653	42.4195	20.7	774.2	15.1	26.4	46.2	59.5	73.2	5911.0	12094.0
31097612060000	-76.89440	42.4104	25.2	779.7	20.8	43.1	58.8	80.5	101.6	5205.0	11208.0
31099040640000	-76.85710	42.8667	19.1	630.5	16.0	31.6	46.1	63.1	80.1	5907.0	12089.0
31099041110000	-76.85470	42.8578	30.2	702.9	30.1	62.9	80.0	109.9	137.9	4115.0	9645.0
31099042030000	-76.85820	42.8763	56.5	1687.4	28.2	61.7	83.8	113.7	141.7	3515.0	8658.0
31099042440000	-76.86530	42.8252	26.9	689.2	26.0	53.0	69.5	95.3	119.8	4599.0	10372.0
31099045440000	-76.92640	42.8690	31.0	632.1	34.9	72.5	90.0	123.7	155.0	3713.0	8995.0
31099045900000	-76.88200	42.8565	26.2	626.7	27.5	56.4	72.6	99.8	125.5	4504.0	10233.0
31099046000000	-76.92170	42.8749	20.8	631.9	18.6	38.8	53.4	73.4	92.9	5602.0	11717.0
31099109600000	-76.78430	42.8566	20.4	609.6	18.7	38.8	53.3	73.4	92.9	5599.0	11714.0
31099116660000	-76.78700	42.8452	21.8	641.3	20.0	41.5	56.3	77.4	97.9	5425.0	11495.0
31099117080000	-76.77860	42.8386	24.3	661.4	23.2	48.3	63.8	87.6	110.5	5002.0	10938.0
31099120510000	-76.80760	42.8481	29.9	814.4	25.6	53.7	70.6	96.8	121.6	4532.0	10274.0
31099120520000	-76.79430	42.8545	20.4	683.1	16.7	34.9	49.3	67.7	85.8	5809.0	11972.0
31099120530000	-76.80150	42.8580	19.2	675.7	15.1	31.4	45.5	62.4	79.3	6016.0	12217.0
31099136750000	-76.83753	42.8646	26.1	767.5	22.3	39.1	58.4	78.4	98.0	4700.0	10516.0
31099136750000	-76.83750	42.8646	26.1	767.5	22.3	47.0	62.8	86.1	108.5	5026.0	10969.0
31099136890000	-76.84690	42.8484	23.8	719.9	20.5	41.8	57.3	78.5	99.1	5284.0	11313.0
31099175670000	-76.84420	42.8668	19.0	659.6	15.1	31.5	45.5	62.5	79.5	6021.0	12223.0
31099175740000	-76.86140	42.8373	22.1	717.2	18.2	37.9	52.7	72.3	91.5	5600.0	11715.0
31099194140000	-76.86430	42.8426	22.7	720.6	19.0	39.5	54.5	74.8	94.5	5499.0	11588.0
31099194600000	-76.90270	42.8132	23.7	756.5	19.5	40.6	55.8	76.5	96.7	5400.0	11462.0
31099194610000	-76.90440	42.7937	22.8	765.1	18.0	37.5	52.4	71.9	90.9	5601.0	11717.0
31099194630000	-76.88380	42.7963	25.6	844.0	19.6	41.6	57.0	78.2	98.7	5339.0	11384.0
31099194670000	-76.88380	42.8380	25.5	764.1	21.6	45.2	60.9	83.5	105.3	5110.0	11082.0
31099194820000	-76.87370	42.7917	27.9	776.3	24.4	50.8	67.3	92.2	116.0	4723.0	10549.0
31099195040000	-76.90550	42.8040	24.8	791.6	20.0	41.8	57.3	78.5	99.1	5313.0	11351.0
31099195350000	-76.89600	42.8231	27.2	764.1	23.8	49.9	66.1	90.7	114.1	4826.0	10694.0
31099195410000	-76.87580	42.8023	22.8	768.7	18.0	37.4	52.4	71.8	90.8	5601.0	11716.0
31099195440000	-76.90190	42.7984	22.7	759.9	18.0	37.5	52.5	71.9	91.0	5602.0	11717.0

31099195830000	-76.89830	42.8511	18.9	655.9	15.1	31.4	45.4	62.4	79.3	6022.0	12225.0
31099195890000	-76.79480	42.7582	25.3	824.5	19.8	41.1	56.7	77.6	97.9	5314.0	11351.0
31099195970000	-76.84250	42.7832	25.4	829.7	19.7	41.0	56.6	77.5	97.8	5315.0	11352.0
31099196210000	-76.85460	42.8005	24.6	774.2	20.1	41.9	57.3	78.6	99.2	5305.0	11339.0
31099196230000	-76.89370	42.7907	24.4	765.1	20.2	42.0	57.5	78.8	99.5	5304.0	11338.0
31099196240000	-76.84827	42.7915	20.2	777.2	14.4	25.2	41.1	54.9	69.0	6133.0	12354.0
31099196310000	-76.90980	42.8137	20.7	775.4	15.1	31.6	45.9	62.9	79.9	5989.0	12186.0
31099196720000	-76.83258	42.8000	24.4	762.0	20.2	35.4	54.3	72.6	90.7	5009.0	10946.0
31099196720000	-76.83260	42.8000	24.4	765.1	20.2	42.0	57.5	78.8	99.4	5303.0	11337.0
31099196730000	-76.81690	42.7937	24.7	784.0	20.0	41.7	57.2	78.4	98.9	5307.0	11342.0
31099196860000	-76.84398	42.5882	46.0	1249.4	29.6	51.9	80.6	106.8	131.6	2958.0	7650.0
31099196860000	-76.84400	42.5882	46.0	1246.6	29.6	61.6	83.2	113.0	141.0	3497.0	8628.0
31099204120000	-76.89390	42.8186	25.8	748.0	22.5	47.0	62.9	86.2	108.6	5003.0	10938.0
31099204460000	-76.80819	42.7086	57.9	1940.4	25.2	50.8	75.7	101.1	125.4	3551.0	8720.0
31099204460000	-76.80820	42.7086	57.8	1935.5	25.2	52.5	76.5	102.7	127.6	3590.0	8787.0
31099206290000	-76.87920	42.8520	21.0	683.7	17.5	36.6	51.1	70.2	88.9	5706.0	11845.0
31099207000000	-76.91500	42.8038	21.7	727.9	17.4	36.1	50.8	69.7	88.3	5701.0	11840.0
31099207010000	-76.90010	42.7741	23.2	757.7	18.8	39.0	54.1	74.2	93.8	5500.0	11590.0
31099207020000	-76.77360	42.8315	21.3	664.2	18.5	38.4	53.1	72.9	92.3	5600.0	11715.0
31099207070000	-76.90560	42.7722	23.7	754.7	19.5	40.4	55.7	76.3	96.4	5398.0	11460.0
31099207080000	-76.79790	42.8287	30.2	669.3	31.7	66.0	83.2	114.3	143.4	3980.0	9431.0
31099212330000	-76.85210	42.8679	23.8	651.4	22.8	46.6	62.1	85.3	107.6	5051.0	11003.0
31099212360000	-76.86960	42.8037	29.2	752.3	26.9	56.0	72.9	99.9	125.5	4423.0	10113.0
31099212410000	-76.92360	42.7961	23.4	736.4	19.6	40.8	56.0	76.9	97.1	5397.0	11459.0
31099212480000	-76.90580	42.7766	31.4	748.6	29.9	62.2	79.8	109.4	137.2	4060.0	9558.0
31099212490000	-76.90520	42.8619	22.2	656.5	20.2	42.2	57.1	78.5	99.2	5389.0	11449.0
31099212500000	-76.91640	42.8225	28.3	725.4	26.6	55.4	72.0	98.8	124.2	4500.0	10227.0
31099212690000	-76.91270	42.7677	29.4	762.6	26.7	55.6	72.6	99.5	125.0	4431.0	10125.0
31099213190000	-76.89490	42.8740	18.4	624.5	15.1	31.3	45.3	62.2	79.1	6033.0	12238.0
31099213580000	-76.89650	42.8787	24.4	636.7	24.3	50.8	66.3	91.2	114.9	4904.0	10803.0
31099213630000	-76.86780	42.8267	33.2	718.7	33.7	69.7	87.9	120.6	151.0	3688.0	8953.0
31099214040000	-76.89900	42.8840	18.2	611.1	15.1	31.4	45.3	62.3	79.2	6038.0	12243.0
31099214070000	-76.90750	42.8749	22.6	624.5	21.8	45.1	60.2	82.8	104.5	5211.0	11217.0
31099227610000	-76.83667	42.8393	64.0	1655.4	33.2	69.8	95.9	129.7	161.1	2724.0	7194.0
31099227610000	-76.83670	42.8393	64.0	1659.0	33.2	71.5	96.4	130.7	162.5	2836.0	7414.0

31099227620000	-76.85167	42.8601	59.2	1524.6	32.9	68.6	93.9	127.1	157.9	2832.0	7406.0
31099227620000	-76.85170	42.8601	59.2	1521.6	33.0	78.3	97.0	133.2	166.7	3564.0	8742.0
31099228630000	-76.86370	42.8665	20.7	666.3	17.6	35.2	50.0	68.5	86.8	5695.0	11833.0
31099228650000	-76.90640	42.8344	23.6	707.1	20.6	42.9	58.2	79.9	100.8	5290.0	11320.0
31099228660000	-76.85360	42.8534	21.3	667.2	18.4	38.5	53.1	73.0	92.4	5602.0	11717.0
31099229090000	-76.81903	42.5530	75.1	2338.7	28.2	57.2	86.8	115.6	142.6	2798.0	7380.0
31099229090000	-76.81903	42.5530	25.7	856.5	19.6	34.3	55.8	73.4	90.8	4842.0	10716.0
31099229090000	-76.81900	42.5530	75.0	2336.3	28.3	62.0	87.9	118.4	147.0	3077.0	7874.0
31099229090000	-76.81900	42.5530	25.7	854.1	19.6	34.3	53.4	71.2	88.9	5072.0	11032.0
31099229090100	-76.81903	42.5530	73.6	2220.2	29.1	58.2	88.5	117.7	145.2	2668.0	7182.0
31099229090100	-76.81900	42.5530	74.2	2304.3	28.3	61.9	87.9	118.3	146.9	3076.0	7872.0
31099229440000	-76.81230	42.8797	21.3	633.1	19.5	40.7	55.4	76.1	96.3	5493.0	11580.0
31099229450000	-76.85360	42.8747	20.5	648.3	17.7	34.0	49.3	67.2	85.0	5646.0	11772.0
31099229500000	-76.70203	42.5642	75.8	2285.1	29.2	58.9	89.1	118.7	146.5	2653.0	7157.0
31099229500000	-76.70200	42.5642	75.8	2285.7	29.2	60.8	89.7	120.1	148.6	2755.0	7257.0
31099229500100	-76.70203	42.5642	71.8	2276.2	27.6	55.6	84.5	112.4	138.8	2943.0	7621.0
31099229500100	-76.70200	42.5642	71.9	2283.9	27.5	57.3	85.0	113.7	140.7	2999.0	7728.0
31099229610000	-76.88460	42.8285	22.9	698.6	19.9	41.3	56.4	77.4	97.8	5391.0	11451.0
31099230270000	-76.91130	42.8262	23.7	713.8	20.6	42.9	58.1	79.8	100.7	5293.0	11324.0
31099230660000	-76.87813	42.8238	20.8	708.7	16.7	29.2	45.9	61.6	77.3	5722.0	11866.0
31099230750000	-76.83900	42.8863	20.2	629.4	17.7	37.1	51.4	70.7	89.6	5711.0	11852.0
31099231250000	-76.80558	42.8874	17.5	601.1	14.2	24.8	40.2	53.9	68.0	6188.0	12416.0
31099231290000	-76.88261	42.8906	16.5	609.6	12.4	21.7	36.1	48.5	61.4	6477.0	12742.0
31099231410000	-76.88608	42.8862	15.4	609.3	10.5	18.5	32.2	43.1	54.8	6682.0	12982.0
31099238750000	-76.86191	42.8274	21.0	723.6	16.6	29.2	45.9	61.5	77.2	5726.0	11871.0
31099238770000	-76.87860	42.8291	20.5	685.2	16.7	34.5	49.0	67.2	85.3	5808.0	11970.0
31099239160000	-76.85960	42.7978	26.8	776.3	22.9	47.8	63.9	87.6	110.3	4914.0	10816.0
31099239350000	-76.81550	42.8833	23.8	609.6	24.2	50.1	65.6	90.2	113.7	4929.0	10837.0
31099239390000	-76.85410	42.8339	29.1	704.1	28.5	59.0	75.9	104.2	130.9	4284.0	9905.0
31099239520000	-76.82220	42.8305	30.0	690.1	30.4	62.6	79.9	109.6	137.5	4080.0	9589.0
31099239530000	-76.92560	42.8522	22.9	665.1	21.0	43.4	58.6	80.4	101.5	5277.0	11303.0
31099239540000	-76.90580	42.8422	23.1	674.5	20.9	43.3	58.5	80.4	101.5	5280.0	11307.0
31099239560000	-76.89640	42.7989	26.8	739.8	24.1	50.1	66.3	90.9	114.5	4796.0	10652.0
31099239630000	-76.83160	42.8555	28.1	636.4	29.9	60.0	77.2	105.8	132.9	4175.0	9737.0
31099239750000	-76.92000	42.8453	26.6	684.0	25.7	53.2	69.4	95.3	120.0	4661.0	10460.0

31099239750000	-76.92000	42.8453	19.4	650.1	16.0	32.4	46.6	64.0	81.2	5921.0	12105.0
31099239760000	-76.86620	42.8620	20.8	634.9	18.6	38.8	53.3	73.3	92.8	5601.0	11716.0
31099239770000	-76.89000	42.7941	28.0	747.1	25.5	52.7	69.4	95.1	119.6	4602.0	10376.0
31099239780000	-76.91780	42.8413	22.3	696.5	19.1	39.8	54.7	75.1	94.9	5496.0	11584.0
31099239790000	-76.84290	42.8572	19.3	648.3	16.0	32.7	46.9	64.4	81.8	5921.0	12105.0
31099260030000	-76.87384	42.8278	23.2	719.9	19.7	34.6	52.7	70.7	88.6	5155.0	11143.0
31099260410000	-76.88990	42.7979	25.7	738.2	22.6	46.6	62.5	85.7	108.0	4988.0	10917.0
31099260420000	-76.89550	42.8028	22.0	715.7	18.2	37.6	52.4	71.9	91.0	5598.0	11713.0
31099260540000	-76.88860	42.8168	22.3	695.6	19.1	39.3	54.3	74.5	94.1	5493.0	11580.0
31099260840000	-76.87030	42.8594	20.2	633.4	17.7	36.9	51.3	70.5	89.3	5709.0	11849.0
31099261070000	-76.90900	42.8789	20.3	641.0	17.7	37.0	51.4	70.6	89.5	5710.0	11851.0
31099261120000	-76.78720	42.8300	23.1	673.6	20.9	43.5	58.6	80.5	101.7	5281.0	11309.0
31099261130000	-76.82230	42.7940	27.8	766.3	24.5	50.8	67.3	92.2	116.0	4712.0	10533.0
31099261140000	-76.83290	42.8289	24.5	695.6	22.3	45.8	61.5	84.4	106.4	5072.0	11031.0
31099261190000	-76.90340	42.8281	24.9	684.3	23.2	48.0	63.7	87.5	110.3	4965.0	10887.0
31099261200000	-76.92310	42.8421	26.3	701.3	24.6	51.2	67.3	92.4	116.3	4776.0	10624.0
31099261210000	-76.91720	42.8370	22.0	677.9	19.2	39.5	54.5	74.8	94.6	5491.0	11579.0
31099261220000	-76.91230	42.8347	24.2	674.8	22.5	46.3	61.9	85.0	107.2	5064.0	11021.0
31099261260000	-76.83960	42.8169	25.4	682.8	24.1	50.1	65.9	90.5	114.0	4867.0	10752.0
31099261270000	-76.89110	42.8498	21.8	665.4	19.3	40.1	54.9	75.4	95.4	5493.0	11580.0
31099261280000	-76.89330	42.8609	23.6	633.1	23.0	47.8	63.2	86.8	109.5	5052.0	11004.0
31099261330000	-76.91960	42.8333	23.0	705.9	19.8	41.3	56.4	77.4	97.8	5394.0	11455.0
31099261340000	-76.83150	42.8254	25.0	692.5	23.1	48.1	63.8	87.6	110.4	4973.0	10897.0
31099261390000	-76.90720	42.8384	26.0	687.3	24.8	51.5	67.6	92.8	116.8	4765.0	10609.0
31099261400000	-76.81490	42.8203	38.3	691.9	42.4	88.2	107.7	147.9	184.9	2929.0	7594.0
31099261410000	-76.83460	42.8329	26.2	699.2	24.6	48.9	65.8	89.9	113.1	4668.0	10471.0
31099261640000	-76.81910	42.8026	23.6	749.2	19.5	40.6	55.9	76.6	96.8	5399.0	11461.0
31099261700000	-76.91280	42.8392	22.3	693.4	19.1	39.8	54.7	75.1	95.0	5496.0	11585.0
31099261710000	-76.79900	42.8753	19.9	612.0	17.8	37.0	51.4	70.6	89.5	5711.0	11852.0
31099263710000	-76.88450	42.8437	21.8	702.9	18.3	37.6	52.4	71.9	91.0	5598.0	11712.0
31101000250000	-77.66750	42.1596	45.4	1433.8	25.4	53.1	74.0	100.2	125.1	3953.0	9388.0
31101000260000	-77.67380	42.1599	51.0	1475.2	28.5	59.5	82.1	111.1	138.4	3454.0	8553.0
31101000260000	-77.67380	42.1599	52.9	1471.6	29.8	62.3	85.5	115.8	144.2	3269.0	8225.0
31101000330000	-77.66693	42.1650	49.6	1319.8	30.8	54.0	88.4	118.4	144.5	2628.0	6319.0
31101000330000	-77.66690	42.1650	49.6	1319.8	30.8	63.6	86.3	117.1	145.9	3267.0	8222.0

31101000360000	-77.66820	42.1569	54.0	1454.5	30.9	64.5	88.2	119.4	148.7	3140.0	7990.0
31101000360000	-77.66820	42.1569	51.7	1451.5	29.4	61.4	84.3	114.2	142.2	3335.0	8344.0
31101001200000	-77.65970	42.1600	39.6	1272.2	24.1	49.3	69.0	93.5	116.9	4275.0	9891.0
31101001700000	-77.27823	42.0772	42.3	1177.4	28.3	49.6	87.4	111.7	135.9	2751.0	6753.0
31101001700000	-77.27820	42.0772	42.2	1171.7	28.4	58.9	79.4	108.0	134.9	3745.0	9048.0
31101001760000	-77.41450	42.0482	45.0	1303.6	27.6	57.5	78.5	106.6	133.1	3723.0	9012.0
31101001780000	-77.39590	42.0761	46.4	1151.8	32.5	67.4	89.3	121.5	151.5	3241.0	8175.0
31101001790000	-77.39110	42.0601	40.7	1011.3	31.3	63.5	84.2	114.7	143.2	3512.0	8654.0
31101001800000	-77.43670	42.0530	46.3	1188.7	31.4	62.1	86.0	116.2	144.6	3141.0	7992.0
31101001820000	-77.40200	42.0521	45.1	1271.3	28.4	59.2	80.4	109.1	136.2	3637.0	8867.0
31101001830000	-77.41300	42.0510	47.8	1262.8	30.7	63.6	85.8	116.5	145.3	3331.0	8337.0
31101001850000	-77.40750	42.0675	44.3	1250.0	28.3	59.7	80.2	109.1	136.4	3732.0	9027.0
31101001860000	-77.41600	42.0592	34.8	1198.8	21.5	42.1	61.8	83.2	103.9	4602.0	10377.0
31101001870000	-77.38800	42.0620	42.2	1213.7	27.4	57.9	77.8	105.9	132.5	3901.0	9303.0
31101001880000	-77.43920	42.0494	42.7	1166.8	28.9	58.7	79.8	108.3	135.2	3646.0	8883.0
31101001900000	-77.43410	42.0483	42.4	1226.2	27.2	56.5	76.9	104.5	130.6	3851.0	9222.0
31101001910000	-77.41340	42.0669	42.7	1211.6	27.8	55.9	77.2	104.6	130.4	3720.0	9006.0
31101001920000	-77.39680	42.0616	44.0	1267.1	27.6	57.9	78.5	106.7	133.2	3779.0	9104.0
31101001940000	-77.45690	42.0423	50.3	1283.8	32.2	67.0	89.8	122.0	152.0	3148.0	8004.0
31101001950000	-77.40790	42.0686	49.1	1228.7	32.6	69.1	91.0	123.9	154.6	3220.0	8136.0
31101001960000	-77.39940	42.0645	48.2	1250.3	31.4	65.4	87.6	119.0	148.4	3280.0	8244.0
31101001980000	-77.41340	42.0549	44.7	1232.3	28.9	59.0	80.5	109.2	136.3	3578.0	8767.0
31101002010000	-77.32750	42.0785	43.0	1099.1	30.9	64.2	85.0	115.8	144.7	3496.0	8626.0
31101002030000	-77.37910	42.0820	44.2	1192.7	29.5	61.3	82.3	112.0	139.8	3574.0	8760.0
31101002070000	-77.36920	42.0851	43.0	1188.7	28.6	59.5	80.2	109.0	136.2	3696.0	8967.0
31101002080000	-77.44660	42.0425	38.2	1202.4	24.3	50.2	69.4	94.3	118.0	4311.0	9946.0
31101002080000	-77.44660	42.0425	47.5	1195.1	32.2	66.6	88.8	120.8	150.6	3217.0	8131.0
31101002090000	-77.44220	42.0538	42.3	1221.0	27.3	56.6	77.0	104.6	130.7	3845.0	9212.0
31101002120000	-77.35450	42.0680	39.3	1289.9	23.5	48.9	68.1	92.4	115.7	4373.0	10039.0
31101002130000	-77.30960	42.0812	45.3	1111.6	32.7	68.1	89.6	122.1	152.4	3274.0	8234.0
31101002170000	-77.34960	42.0803	44.5	1175.9	30.2	62.7	83.9	114.2	142.5	3498.0	8630.0
31101002190000	-77.35000	42.0697	40.8	1275.6	24.9	51.9	71.6	97.2	121.6	4157.0	9710.0
31101002240000	-77.41710	42.0531	42.8	1216.8	27.8	55.4	77.1	104.3	130.1	3683.0	8944.0
31101002260000	-77.40970	42.0649	43.4	1268.0	27.2	57.0	77.4	105.2	131.5	3848.0	9217.0
31101002280000	-77.41190	42.0642	42.6	1204.3	27.9	58.1	78.6	106.9	133.6	3772.0	9092.0

31101002290000	-77.40840	42.0672	42.4	1230.5	27.2	57.1	77.2	105.0	131.3	3889.0	9284.0
31101002910000	-77.61690	42.0043	54.9	1531.6	29.9	62.3	86.2	116.5	145.0	3191.0	8084.0
31101003200000	-77.29030	42.0741	41.5	1115.6	29.1	60.3	80.7	109.9	137.3	3696.0	8966.0
31101023570000	-77.67080	42.1596	54.5	1457.6	31.2	65.2	88.9	120.5	150.0	3112.0	7938.0
31101039240000	-77.43038	42.0631	110.6	4113.9	24.7	51.8	86.2	116.4	141.6	2652.0	6978.0
31101039240000	-77.43040	42.0631	120.6	4113.9	27.1	58.1	94.5	137.1	165.2	2319.0	5884.0
31101039240000	-77.43040	42.0631	110.7	3851.8	26.4	55.7	90.9	125.3	152.3	2477.0	6479.0
31101043460000	-77.16430	42.3139	32.9	970.5	24.6	51.5	69.2	94.5	118.6	4495.0	10220.0
31101045730000	-77.22226	42.2355	27.7	764.1	24.5	43.0	70.7	94.6	115.7	3451.0	8391.0
31101045730000	-77.22230	42.2355	27.8	766.9	24.5	49.2	66.1	90.4	113.6	4685.0	10495.0
31101051230000	-77.57950	42.1154	34.8	1448.7	17.8	35.1	53.8	72.0	90.0	5208.0	11212.0
31101051230000	-77.57950	42.1154	47.7	1486.2	26.0	51.6	75.1	100.9	125.3	3631.0	8858.0
31101083180000	-77.51520	42.2363	43.7	1338.7	26.0	53.1	74.1	100.3	125.2	3915.0	9326.0
31101083480000	-77.41730	42.2779	42.0	1156.7	28.6	58.8	79.4	108.0	134.9	3722.0	9010.0
31101095820000	-77.42430	42.2772	36.1	1169.8	23.2	48.2	66.6	90.6	113.5	4518.0	10254.0
31101100240000	-77.60560	42.4431	30.2	1050.0	20.2	42.0	58.7	80.0	100.7	5088.0	11054.0
31101100360000	-77.66250	42.2029	41.1	1400.9	23.0	47.6	67.3	91.1	113.9	4366.0	10028.0
31101102460000	-77.65500	42.2015	46.2	1406.4	26.5	55.1	76.3	103.4	129.0	3798.0	9135.0
31101106490000	-77.51990	42.2388	43.2	1341.1	25.5	53.4	73.7	100.0	124.9	4017.0	9489.0
31101110270000	-77.31680	42.4634	30.7	811.7	26.7	54.8	72.2	98.8	124.0	4363.0	10024.0
31101111050000	-77.54220	42.2203	47.5	1375.6	28.0	58.4	80.1	108.6	135.4	3605.0	8812.0
31101111350000	-77.62200	42.4539	28.5	970.5	20.0	41.5	57.9	79.0	99.5	5165.0	11156.0
31101114620000	-77.25050	42.2069	28.3	1079.6	17.8	37.1	53.2	72.5	91.4	5453.0	11529.0
31101115610000	-77.19730	42.4499	24.8	679.7	23.3	47.7	63.5	87.2	109.8	4959.0	10878.0
31101115700000	-77.21860	42.4753	20.1	698.9	15.9	31.9	46.4	63.5	80.6	5909.0	12091.0
31101117540000	-77.72530	42.3669	30.7	1056.1	20.6	42.8	59.7	81.4	102.3	5024.0	10966.0
31101117810000	-77.16320	42.3056	34.3	991.8	25.5	52.6	70.9	96.7	121.2	4324.0	9965.0
31101119830000	-77.56820	42.2236	33.0	1147.3	20.9	43.4	61.0	82.9	104.1	4894.0	10789.0
31101120160000	-77.61810	42.1453	47.4	1506.3	25.5	53.0	74.4	100.7	125.5	3868.0	9251.0
31101120750000	-77.62560	42.4495	28.2	974.1	19.7	41.1	57.4	78.3	98.6	5213.0	11219.0
31101121790000	-77.37840	42.2546	40.0	1216.2	25.5	53.1	72.7	98.8	123.6	4114.0	9643.0
31101124020000	-77.38920	42.3168	55.9	1791.0	26.2	54.5	78.2	105.2	130.8	3534.0	8691.0
31101127650000	-77.66520	42.1981	42.2	1417.6	23.4	48.7	68.6	92.9	116.1	4278.0	9896.0
31101129310000	-76.98870	42.2180	38.4	1113.0	26.4	53.1	73.0	99.2	123.9	4035.0	9518.0
31101129600000	-77.38890	42.3712	26.0	911.1	18.6	38.7	54.4	74.3	93.8	5423.0	11491.0

31101129720000	-77.36850	42.2341	38.5	1271.6	23.2	48.3	67.3	91.3	114.3	4431.0	10125.0
31101130110000	-77.58680	42.0266	48.6	1516.7	26.1	54.3	76.1	102.9	128.3	3759.0	9071.0
31101132430000	-77.08201	42.1876	37.7	1078.4	26.6	46.6	77.0	103.5	126.3	3120.0	7517.0
31101132430000	-77.08200	42.1876	37.7	1077.8	26.6	52.4	73.3	99.2	123.8	3906.0	9312.0
31101135780000	-77.69630	42.1553	48.9	1497.2	26.7	55.5	77.5	104.8	130.6	3689.0	8955.0
31101136900000	-77.61370	42.0867	52.7	1534.7	28.5	58.4	81.9	110.6	137.6	3374.0	8413.0
31101136990000	-77.26510	42.4662	84.9	2985.2	25.4	54.2	83.1	110.5	136.4	2942.0	7838.0
31101136990000	-77.26510	42.4662	80.8	2810.6	25.5	53.7	82.4	109.6	135.3	2998.0	7869.0
31101136990000	-77.26510	42.4662	43.6	1417.9	24.4	42.8	69.5	91.2	112.2	3673.0	8928.0
31101136990000	-77.26510	42.4662	39.5	1173.5	26.0	45.5	73.1	96.2	118.4	3399.0	8457.0
31101136990000	-77.26510	42.4662	84.1	2807.2	26.7	59.7	86.1	115.7	143.5	3150.0	8008.0
31101136990000	-77.26510	42.4662	44.1	1418.5	24.8	47.9	71.5	95.6	118.7	3783.0	9111.0
31101136990000	-77.26510	42.4662	39.5	1177.1	25.9	46.7	70.6	94.1	116.7	3726.0	9017.0
31101137360000	-77.40880	42.4348	44.3	1478.0	23.9	49.5	70.1	94.7	118.3	4152.0	9702.0
31101144840000	-77.74330	42.1195	49.5	1496.0	27.0	56.3	78.5	106.1	132.3	3632.0	8858.0
31101152680000	-77.35390	42.1637	38.4	1175.9	25.0	52.0	71.2	96.8	121.2	4228.0	9819.0
31101154380000	-77.21584	42.5394	76.2	2422.6	27.7	55.9	85.9	114.1	140.7	2766.0	7414.0
31101154380000	-77.21580	42.5394	76.2	2422.6	27.7	59.2	86.7	116.2	144.0	2984.0	7700.0
31101154920000	-77.30970	42.3291	29.2	886.1	22.8	47.6	64.3	87.9	110.6	4827.0	10696.0
31101158340000	-77.59210	42.2032	45.4	1689.2	21.6	44.9	65.3	88.0	109.8	4419.0	10107.0
31101160210000	-77.01430	42.2700	34.3	1073.8	23.6	48.4	66.6	90.7	113.7	4532.0	10275.0
31101161020000	-77.31748	42.3261	32.6	906.2	26.0	45.6	74.5	98.4	120.6	3238.0	8101.0
31101161020000	-77.31750	42.3261	32.6	906.2	26.0	54.3	72.0	98.4	123.5	4367.0	10029.0
31101161030000	-77.30580	42.3267	24.5	883.9	17.5	36.1	51.5	70.3	88.9	5603.0	11719.0
31101173640000	-77.57370	42.1831	39.0	1435.0	20.9	43.6	62.4	84.4	105.7	4698.0	10514.0
31101173760000	-77.70420	42.0286	53.0	1566.4	28.1	58.2	81.5	110.1	137.1	3410.0	8476.0
31101174880000	-77.69390	42.0396	55.9	1631.3	28.8	59.3	83.6	112.7	140.1	3253.0	8197.0
31101175020000	-77.55030	42.1927	36.8	1223.5	22.7	47.2	65.7	89.3	111.9	4547.0	10296.0
31101175130000	-77.43960	42.1380	41.6	1391.4	23.4	48.8	68.6	92.9	116.2	4300.0	9929.0
31101175300000	-77.23810	42.0890	42.0	1382.6	23.9	41.9	71.0	95.5	116.0	3471.0	8274.0
31101175300000	-77.23810	42.0890	42.0	1382.6	23.9	49.7	69.7	94.4	118.0	4222.0	9810.0
31101175340000	-77.70170	42.1904	45.7	1409.4	26.0	54.2	75.3	102.0	127.3	3860.0	9238.0
31101175350000	-77.22300	42.2107	36.9	1146.4	24.3	50.7	69.4	94.5	118.4	4358.0	10016.0
31101175390000	-77.03610	42.2048	29.8	1074.1	19.4	38.2	56.0	75.6	94.9	5101.0	11070.0
31101194960000	-77.02800	42.2079	40.4	1213.4	25.9	51.9	72.4	98.0	122.4	4011.0	9481.0

31101194970000	-77.21593	42.5408	70.0	2402.4	25.4	51.0	79.0	104.8	129.3	3228.0	8151.0
31101194970000	-77.21590	42.5408	68.5	2202.5	27.0	57.0	83.2	111.5	138.3	3182.0	8067.0
31101194970000	-77.21590	42.5408	23.6	781.5	18.6	32.7	52.0	68.9	85.8	5192.0	11192.0
31101196910000	-77.14620	42.3448	27.8	1007.4	18.7	38.8	54.9	74.9	94.4	5351.0	11399.0
31101206580000	-77.68985	42.3067	33.1	1066.2	22.6	39.6	65.9	86.1	105.7	3924.0	9340.0
31101206580000	-77.68990	42.3067	33.1	1069.5	22.6	47.1	64.7	88.1	110.7	4705.0	10524.0
31101206580000	-77.68990	42.3067	32.2	1038.8	22.3	46.0	63.5	86.5	108.7	4760.0	10602.0
31101213420000	-77.04810	42.2143	33.7	1159.5	21.3	42.3	61.2	82.6	103.4	4714.0	10537.0
31101213430000	-77.02120	42.2185	35.0	1125.3	23.1	46.0	65.2	88.3	110.5	4478.0	10195.0
31101214100001	-77.51270	42.2349	45.6	1355.1	27.0	56.0	77.3	104.7	130.7	3754.0	9063.0
31101214120000	-77.51780	42.2379	38.0	1321.3	21.9	44.5	63.6	86.1	107.7	4582.0	10347.0
31101214130000	-77.52280	42.2405	45.3	1329.5	27.3	58.6	78.8	107.3	134.0	3849.0	9220.0
31101214140000	-77.52260	42.2409	40.6	1405.7	22.5	48.6	67.2	91.4	114.5	4538.0	10284.0
31101214250000	-77.73310	42.2789	38.2	1252.1	23.4	48.7	67.6	91.8	115.0	4422.0	10112.0
31101214490000	-77.51270	42.2349	43.7	1427.4	24.3	51.0	71.2	96.5	120.6	4149.0	9697.0
31101214500000	-77.51270	42.2359	44.5	1449.9	24.5	51.5	71.8	97.3	121.6	4104.0	9627.0
31101214560000	-77.67750	42.2158	43.9	1450.2	24.1	50.2	70.6	95.5	119.3	4138.0	9679.0
31101214580000	-77.72460	42.2824	37.1	1204.3	23.3	48.4	67.1	91.2	114.3	4461.0	10170.0
31101214590000	-77.55950	42.3626	33.4	1086.9	22.4	46.1	64.0	87.0	109.2	4700.0	10517.0
31101214640000	-77.72450	42.2834	37.1	1204.6	23.3	48.5	67.2	91.3	114.4	4463.0	10172.0
31101214680000	-77.45324	42.4197	84.5	3013.6	25.0	52.9	82.1	108.9	134.3	2932.0	7880.0
31101214680000	-77.45324	42.4197	73.4	2507.6	25.7	51.4	80.9	107.0	131.8	3026.0	7868.0
31101214680000	-77.45324	42.4197	43.1	1472.2	23.2	40.6	67.1	87.7	107.8	3859.0	9236.0
31101214680000	-77.45320	42.4197	84.5	3013.0	25.1	57.0	82.0	110.3	136.9	3435.0	8519.0
31101214700000	-77.51990	42.2388	40.7	1367.0	23.2	48.8	68.2	92.5	115.7	4374.0	10040.0
31101214960000	-77.46323	42.4053	85.2	3063.5	24.9	52.7	81.9	108.6	133.9	2942.0	7909.0
31101214960000	-77.46323	42.4053	45.3	1285.3	28.3	49.6	79.8	105.0	129.0	2944.0	7620.0
31101214960000	-77.46323	42.4053	34.1	1057.7	23.7	41.6	67.9	89.0	109.5	3773.0	9094.0
31101214960000	-77.46320	42.4053	70.9	1285.3	48.1	95.1	128.6	173.8	214.9	1522.0	4710.0
31101214960000	-77.46320	42.4053	34.1	1057.7	23.7	44.6	65.3	87.8	109.5	4270.0	9884.0
31101215040000	-77.45080	42.1355	42.3	1314.6	25.4	52.7	72.9	98.9	123.6	4044.0	9532.0
31101215050000	-77.44590	42.1566	38.5	1181.1	24.9	51.9	71.1	96.7	121.0	4231.0	9823.0
31101215060000	-77.53580	42.3591	29.0	1133.9	17.6	36.7	52.9	71.9	90.6	5463.0	11542.0
31101215600000	-77.64550	42.3569	37.1	1073.2	26.2	54.4	73.3	99.9	125.1	4159.0	9712.0
31101215700000	-77.63710	42.3481	31.8	1093.0	20.8	43.4	60.6	82.4	103.6	4956.0	10873.0

31101215840000	-77.26100	42.3092	31.3	1097.0	20.3	41.1	58.5	79.4	99.8	5025.0	10968.0
31101215870000	-77.25900	42.3090	30.8	1147.9	19.0	39.7	56.4	76.8	96.6	5225.0	11235.0
31101215880000	-77.25850	42.3108	32.0	1151.2	20.0	41.6	58.7	79.9	100.4	5062.0	11019.0
31101215890000	-77.25900	42.3074	30.7	1097.9	19.8	40.9	57.8	78.7	98.9	5119.0	11094.0
31101215910000	-77.13520	42.1658	35.8	1148.5	23.4	46.8	65.9	89.2	111.7	4456.0	10163.0
31101215920000	-77.23665	42.5406	67.2	2187.2	26.6	53.1	81.9	108.7	134.0	3054.0	7831.0
31101215920000	-77.23670	42.5406	68.0	2280.5	25.9	54.1	80.3	107.4	133.1	3287.0	8256.0
31101215980001	-77.25470	42.3064	29.1	895.8	22.4	45.5	62.5	85.2	107.1	4855.0	10735.0
31101215980001	-77.25470	42.3064	32.8	884.8	26.9	54.3	72.6	99.1	124.2	4225.0	9814.0
31101216010000	-77.45341	42.4334	89.9	2982.8	27.1	57.2	88.1	117.2	144.5	2544.0	7241.0
31101216010000	-77.45341	42.4334	78.1	2734.4	25.3	52.0	81.0	107.4	132.4	3029.0	7925.0
31101216010000	-77.45341	42.4334	42.9	1404.2	24.1	42.3	69.3	90.8	111.6	3677.0	8934.0
31101216010000	-77.45340	42.4334	91.7	3625.3	22.8	51.5	77.7	103.6	128.3	3546.0	8712.0
31101216010000	-77.45340	42.4334	37.0	1193.9	23.4	41.1	65.3	86.2	106.5	4018.0	9491.0
31101216220000	-77.46030	42.4220	37.8	1219.2	23.7	47.0	67.2	90.8	113.4	4282.0	9902.0
31101216220000	-77.46030	42.4220	37.9	1136.9	25.4	50.0	70.9	95.8	119.5	4015.0	9486.0
31101216230000	-77.45720	42.4226	39.0	1133.9	26.4	52.8	73.4	99.4	124.1	3943.0	9372.0
31101216230000	-77.45720	42.4226	33.9	1131.7	22.0	44.0	62.7	84.9	106.3	4648.0	10442.0
31101216240000	-77.46718	42.4201	90.2	2804.8	28.9	60.1	92.4	122.9	151.4	2406.0	6770.0
31101216240000	-77.46718	42.4201	63.4	2129.0	25.6	50.0	79.3	104.6	128.8	3146.0	8001.0
31101216240000	-77.46718	42.4201	47.9	1412.7	27.6	48.4	78.2	102.8	126.2	3049.0	7822.0
31101216240000	-77.46720	42.4201	91.3	3042.2	27.0	61.7	88.0	118.4	146.9	3120.0	7954.0
31101216240000	-77.46720	42.4201	81.9	2816.7	25.9	58.3	83.6	112.5	139.6	3329.0	8332.0
31101216250000	-77.45750	42.4195	34.9	1116.5	23.2	47.2	65.7	89.2	111.8	4549.0	10300.0
31101216260000	-77.45480	42.4198	35.0	1127.8	23.1	44.2	64.7	87.0	108.6	4347.0	10000.0
31101216270000	-77.46470	42.4190	39.3	1157.3	26.2	50.8	72.8	98.1	122.2	3820.0	9171.0
31101216330000	-77.44556	42.4279	85.7	3032.8	25.3	53.5	82.9	110.0	135.7	2865.0	7799.0
31101216330000	-77.44556	42.4279	70.5	2255.5	27.3	53.9	84.7	112.0	137.9	2743.0	7426.0
31101216330000	-77.44556	42.4279	45.0	1401.8	25.7	45.1	73.5	96.3	118.4	3369.0	8403.0
31101216330000	-77.44560	42.4279	87.0	3465.6	22.5	50.7	76.2	101.7	126.0	3650.0	8890.0
31101216330000	-77.44560	42.4279	70.5	2251.0	27.3	56.1	83.9	112.0	138.5	3029.0	7784.0
31101216360000	-77.46566	42.4290	100.6	3029.4	30.3	64.0	97.8	130.3	160.6	2225.0	6333.0
31101216360000	-77.46566	42.4290	42.9	1409.1	24.1	42.2	69.2	90.7	111.4	3684.0	8946.0
31101216360000	-77.46570	42.4290	101.7	3335.7	27.8	62.4	91.8	122.9	152.0	2655.0	7328.0
31101216360000	-77.46570	42.4290	42.9	1404.5	24.1	44.1	68.7	91.1	112.6	3840.0	9204.0

31101216880000	-77.25193	42.5344	66.4	2229.0	25.8	51.4	79.4	105.4	130.0	3206.0	8112.0
31101216880000	-77.25190	42.5344	66.4	2228.7	25.8	53.6	79.7	106.5	132.0	3310.0	8298.0
31101216890000	-77.27497	42.5388	68.5	2285.7	26.1	52.3	80.2	106.6	131.6	3177.0	8058.0
31101216890000	-77.27500	42.5388	68.6	2286.6	26.1	54.5	80.9	108.2	134.0	3248.0	8188.0
31101216890100	-77.27497	42.5388	65.9	2161.3	26.3	52.5	80.5	107.0	132.1	3147.0	8002.0
31101216890100	-77.27500	42.5388	66.0	2170.2	26.3	53.9	80.4	107.4	132.9	3249.0	8188.0
31101216920000	-77.18216	42.5399	73.7	2161.3	29.9	59.5	91.1	121.0	149.2	2457.0	6864.0
31101216920000	-77.18220	42.5399	73.6	2156.2	30.0	62.4	91.0	122.0	151.0	2731.0	7208.0
31101217030000	-77.16740	42.5435	69.6	2209.8	27.4	57.7	84.4	113.1	140.2	3093.0	7903.0
31101217040000	-77.11122	42.4394	78.6	2446.9	28.4	56.7	88.7	117.4	144.5	2561.0	7040.0
31101217040000	-77.11120	42.4394	78.6	2443.9	28.5	59.3	88.7	118.4	146.4	2710.0	7286.0
31101217050000	-77.19795	42.5435	66.5	2167.1	26.5	52.7	81.6	108.3	133.5	3057.0	7836.0
31101217050000	-77.19800	42.5435	66.5	2165.9	26.6	55.4	81.5	109.2	135.4	3234.0	8162.0
31101217070000	-77.30298	42.5378	72.9	2346.7	27.2	55.2	84.0	111.9	138.1	2972.0	7676.0
31101217070000	-77.30300	42.5378	72.9	2349.4	27.2	56.8	84.5	113.0	139.8	3022.0	7770.0
31101217070200	-77.30298	42.5378	72.3	2271.4	27.9	56.0	85.3	113.4	140.0	2890.0	7520.0
31101217070200	-77.30300	42.5378	72.4	2286.6	27.8	57.4	85.5	114.3	141.3	2956.0	7645.0
31101217100000	-77.17231	42.5472	63.8	1861.4	29.5	57.1	87.9	116.6	143.7	2644.0	7124.0
31101217100000	-77.17230	42.5472	63.8	1858.7	29.5	60.7	87.1	117.1	145.2	2982.0	7694.0
31101217120000	-77.25981	42.5393	72.9	2343.9	27.3	55.0	84.0	111.7	137.9	2959.0	7652.0
31101217120000	-77.25980	42.5393	72.9	2341.5	27.3	56.9	84.6	113.1	140.0	3011.0	7751.0
31101217150000	-77.34121	42.5237	73.3	2401.5	26.8	54.0	83.0	110.3	136.1	3003.0	7734.0
31101217150000	-77.34120	42.5237	73.3	2399.1	26.8	55.7	83.6	111.6	138.0	3046.0	7816.0
31101217180000	-77.59404	42.0956	88.5	3403.4	23.4	46.8	77.9	103.2	126.0	3116.0	7955.0
31101217180000	-77.59404	42.0956	64.6	2139.7	26.0	45.9	79.0	103.9	126.3	3058.0	7534.0
31101217180000	-77.59400	42.0956	88.5	3399.7	23.4	50.9	78.9	104.7	129.2	3263.0	8364.0
31101217180000	-77.59400	42.0956	64.6	2136.3	26.0	51.2	80.4	106.3	130.9	3096.0	7909.0
31101227410000	-77.20554	42.4939	68.6	2286.0	26.1	51.9	81.0	107.3	132.2	3078.0	7875.0
31101227410000	-77.20550	42.4939	68.5	2283.0	26.1	54.4	80.9	108.2	133.9	3236.0	8165.0
31101227450000	-77.24183	42.5003	69.9	2246.7	27.1	54.1	83.7	111.0	136.8	2932.0	7619.0
31101227450000	-77.24180	42.5003	69.9	2246.7	27.1	56.2	83.5	111.6	138.1	3077.0	7874.0
31101227470000	-77.20896	42.5103	68.4	2268.3	26.2	52.2	81.3	107.7	132.7	3069.0	7858.0
31101227470000	-77.20900	42.5103	68.4	2269.9	26.2	54.5	81.1	108.4	134.3	3220.0	8136.0
31101227480000	-77.19181	42.5107	66.3	2204.3	26.0	51.5	80.4	106.5	131.2	3118.0	7949.0
31101227480000	-77.19180	42.5107	66.3	2204.3	26.0	54.0	80.1	107.2	132.8	3292.0	8267.0

31101227550000	-77.16584	42.5188	63.0	2077.5	26.0	51.2	79.7	105.6	130.3	3155.0	8018.0
31101227550000	-77.16580	42.5188	63.0	2076.9	26.0	54.1	79.4	106.4	132.0	3369.0	8404.0
31101227560000	-77.20368	42.4823	86.5	2392.1	32.4	64.7	99.4	132.1	162.6	2209.0	6069.0
31101227560000	-77.20370	42.4823	86.5	2388.4	32.5	68.7	99.9	133.9	165.6	2162.0	6438.0
31101227580000	-77.45390	42.5494	64.4	2258.0	24.6	52.9	76.9	103.3	128.3	3630.0	8856.0
31101227580100	-77.45391	42.5494	66.6	2247.9	25.6	51.0	79.5	105.4	129.9	3177.0	8058.0
31101227580100	-77.45390	42.5494	66.8	2270.8	25.4	54.9	79.5	106.8	132.6	3477.0	8594.0
31101227590000	-77.40016	42.5334	62.7	2404.9	22.4	44.8	70.6	93.3	115.2	3788.0	9119.0
31101227590000	-77.40020	42.5334	62.7	2402.4	22.4	46.3	70.9	94.4	116.8	3840.0	9204.0
31101227590100	-77.40016	42.5334	72.9	2426.2	26.3	52.8	82.0	108.7	134.0	3039.0	7802.0
31101227590100	-77.40020	42.5334	72.9	2423.8	26.4	54.8	82.5	110.0	136.1	3100.0	7916.0
31101227590200	-77.40016	42.5334	73.3	2483.2	25.9	52.2	81.1	107.5	132.6	3103.0	7921.0
31101227590200	-77.40020	42.5334	73.2	2478.0	25.9	54.2	81.7	108.9	134.7	3158.0	8022.0
31101227600000	-77.41842	42.5423	69.3	2382.9	25.3	50.6	78.9	104.5	128.9	3224.0	8143.0
31101227600000	-77.41840	42.5423	69.2	2380.5	25.3	52.5	79.2	105.7	130.8	3299.0	8280.0
31101227600100	-77.41842	42.5423	70.0	2406.1	25.3	50.8	79.1	104.8	129.3	3211.0	8120.0
31101227600100	-77.41840	42.5423	70.0	2410.4	25.3	52.8	79.5	106.0	131.2	3291.0	8264.0
31101227650000	-77.23449	42.4932	69.3	2393.6	25.2	50.5	78.7	104.2	128.6	3236.0	8165.0
31101227650000	-77.23450	42.4932	69.4	2397.3	25.2	52.8	79.1	105.6	130.8	3342.0	8355.0
31101227650100	-77.23450	42.4932	79.4	2329.3	30.2	63.0	92.9	124.4	153.8	2514.0	6940.0
31101227660000	-77.44100	42.5458	70.0	2329.3	26.2	52.2	81.2	107.7	132.7	3075.0	7870.0
31101227660000	-77.44100	42.5458	70.0	2326.8	26.2	54.6	81.5	108.9	134.8	3187.0	8076.0
31101227680000	-77.27162	42.5336	67.2	2254.0	25.8	51.7	79.5	105.6	130.4	3214.0	8125.0
31101227680000	-77.27160	42.5336	67.2	2251.6	25.8	53.7	80.0	107.0	132.5	3286.0	8256.0
31101227690000	-77.22773	42.5367	73.7	2310.7	28.0	56.0	86.1	114.4	141.1	2756.0	7374.0
31101227690000	-77.22770	42.5367	73.7	2305.2	28.1	59.0	86.7	116.2	143.8	2940.0	7614.0
31101227710000	-77.01448	42.2148	85.9	2959.6	26.0	51.6	84.5	112.3	137.3	2779.0	7180.0
31101227710000	-77.01450	42.2148	85.9	2959.0	26.0	55.1	84.6	112.5	138.9	2788.0	7649.0
31101227720000	-77.17175	42.5353	66.1	2179.3	26.2	52.1	80.7	107.0	132.0	3117.0	7947.0
31101227720000	-77.17180	42.5353	66.0	2179.0	26.2	54.6	80.6	107.9	133.7	3279.0	8244.0
31101228140000	-77.05420	42.2049	93.8	3134.9	27.1	54.0	88.3	117.4	143.6	2608.0	6776.0
31101228140000	-77.05420	42.2049	93.8	3132.7	27.1	57.7	88.9	118.1	145.6	2518.0	7196.0
31101228140100	-77.05420	42.2049	93.6	3061.7	27.6	55.0	89.8	119.5	146.2	2527.0	6608.0
31101228140100	-77.05420	42.2049	93.6	3080.3	27.5	58.3	89.8	119.3	147.1	2485.0	7093.0
31101228250000	-77.03536	42.2127	86.5	2841.3	27.3	53.7	87.8	117.0	143.0	2636.0	6783.0

31101228250000	-77.03540	42.2127	87.1	2990.1	26.1	56.4	85.3	113.7	140.4	2887.0	7705.0
31101228440000	-77.17546	42.4960	69.1	2281.7	26.3	52.5	81.7	108.3	133.5	3044.0	7811.0
31101228440000	-77.17550	42.4960	69.1	2279.3	26.4	55.3	81.7	109.4	135.5	3213.0	8124.0
31101228440100	-77.17546	42.4960	76.7	2185.4	31.0	61.3	94.3	125.3	154.3	2349.0	6518.0
31101228440100	-77.17550	42.4960	76.7	2196.7	30.8	64.1	93.6	125.5	155.2	2592.0	6929.0
31101228440200	-77.17546	42.4960	79.8	2164.7	32.7	64.7	99.1	131.8	162.2	2214.0	6083.0
31101228440200	-77.17550	42.4960	79.9	2173.5	32.6	67.5	98.3	131.7	162.9	2259.0	6505.0
31101228450000	-77.17270	42.5090	77.1	2244.9	30.4	63.7	92.8	124.4	153.9	2660.0	7067.0
31101228450100	-77.17268	42.5090	64.6	2142.7	26.0	51.4	80.0	106.0	130.7	3137.0	7984.0
31101228450100	-77.17270	42.5090	64.6	2140.9	26.0	53.9	79.7	106.7	132.2	3325.0	8326.0
31101228520000	-77.08635	42.2013	89.6	3187.6	25.3	50.4	83.0	110.3	134.8	2848.0	7340.0
31101228520000	-77.08640	42.2013	89.6	3185.2	25.3	53.1	84.2	113.4	139.0	2749.0	7446.0
31101228590000	-77.59196	42.5357	70.3	2293.9	26.7	53.2	82.5	109.4	134.9	3005.0	7739.0
31101228590000	-77.59200	42.5357	70.3	2291.5	26.7	55.6	82.8	110.7	137.0	3118.0	7950.0
31101228610000	-77.16459	42.1576	96.3	3206.2	27.2	54.2	89.3	119.0	145.4	2528.0	6606.0
31101228610000	-77.16459	42.1576	42.8	1215.8	27.8	48.7	80.5	108.7	132.4	2953.0	7047.0
31101228610000	-77.16460	42.1576	96.3	3206.2	27.2	59.6	89.6	119.6	147.7	2561.0	7326.0
31101228610000	-77.16460	42.1576	42.7	1207.3	27.9	48.9	77.0	101.8	125.4	3156.0	8020.0
31101228610100	-77.16459	42.1576	88.5	3061.1	26.0	51.4	84.9	113.3	138.3	2755.0	7039.0
31101228610100	-77.16460	42.1576	89.1	3205.9	25.0	54.7	82.8	110.4	136.4	3097.0	8018.0
31101228710000	-76.97240	42.1672	87.3	3022.7	25.9	54.6	84.7	112.4	138.6	2712.0	7582.0
31101228710100	-76.97243	42.1672	80.1	3034.3	23.4	46.2	77.2	102.7	125.2	3155.0	7955.0
31101228710100	-76.97243	42.1672	78.4	3034.3	22.9	45.2	75.5	100.4	122.5	3251.0	8166.0
31101228710100	-76.97243	42.1672	75.7	3034.3	22.0	43.4	72.8	96.6	117.8	3423.0	8527.0
31101228710100	-76.97243	42.1672	74.6	3034.3	21.6	42.6	71.7	95.1	116.0	3495.0	8675.0
31101228710100	-76.97243	42.1672	70.5	2663.6	23.1	44.2	74.7	99.1	120.7	3303.0	8209.0
31101228710100	-76.97243	42.1672	72.1	2649.9	23.8	45.5	76.7	101.9	124.1	3183.0	7943.0
31101228710100	-76.97243	42.1672	65.1	2509.1	22.4	42.0	71.7	94.9	115.5	3495.0	8573.0
31101228840000	-76.97669	42.2345	86.2	2908.4	26.6	52.7	86.0	114.2	139.8	2713.0	7036.0
31101228840000	-76.97670	42.2345	86.6	2996.8	25.9	54.3	84.6	112.2	138.2	2708.0	7568.0
31101228840100	-76.97669	42.2345	89.0	2910.8	27.5	54.6	88.8	118.0	144.5	2595.0	6738.0
31101228840100	-76.97670	42.2345	89.1	2930.7	27.3	57.0	88.4	117.4	144.7	2541.0	7146.0
31101228850000	-77.06620	42.1799	89.7	3063.2	26.3	52.3	86.0	114.5	139.9	2709.0	6967.0
31101228850000	-77.06620	42.1799	89.8	3101.3	26.1	54.4	85.9	114.3	140.5	2668.0	7336.0
31101228920100	-76.99987	42.1776	89.8	3086.4	26.2	51.9	85.6	114.0	139.3	2725.0	6999.0

31101228920100	-76.99990	42.1776	89.9	3112.6	26.0	54.6	85.4	113.2	139.4	2668.0	7457.0
31101229080000	-77.09644	42.2541	87.5	2941.9	26.7	53.1	86.5	114.8	140.6	2691.0	6999.0
31101229080000	-77.09640	42.2541	87.5	2939.5	26.7	56.5	86.7	115.3	142.2	2639.0	7436.0
31101229490000	-77.31653	42.4972	74.8	2539.0	25.9	53.5	81.8	108.8	134.3	3104.0	7924.0
31101229490000	-77.31650	42.4972	74.7	2533.5	25.9	54.1	82.0	109.3	135.0	3117.0	7947.0
31101229580000	-77.08207	42.1483	89.3	3105.0	25.9	51.1	84.7	113.0	138.0	2763.0	7053.0
31101229580000	-77.08210	42.1483	89.3	3104.1	25.9	53.9	85.6	112.7	138.6	2696.0	7433.0
31101229630000	-77.03730	42.0504	104.4	3559.8	26.8	53.4	89.6	120.3	146.4	2419.0	6446.0
31101229630000	-77.03730	42.0504	45.4	1577.3	23.1	40.4	73.9	94.3	114.1	3517.0	8420.0
31101229630000	-77.03730	42.0504	104.4	3558.8	26.8	57.7	90.4	133.6	161.2	2493.0	6302.0
31101229630000	-77.03730	42.0504	45.4	1577.3	23.1	40.4	67.9	88.4	108.4	3792.0	9126.0
31101229630100	-77.03730	42.0504	96.5	3505.8	25.0	49.6	83.7	112.3	136.6	2767.0	7083.0
31101229630100	-77.03730	42.0504	96.5	3508.6	24.9	53.6	84.4	123.1	149.0	2700.0	6964.0
31101229630100	-77.03730	42.0504	94.3	3102.6	27.5	57.5	90.1	121.2	148.7	2506.0	6856.0
31101229630200	-77.03730	42.0504	98.6	3438.1	26.1	51.7	86.8	116.8	142.0	2573.0	6709.0
31101229630200	-77.03730	42.0504	98.7	3497.6	25.7	55.1	86.5	126.1	152.6	2606.0	6752.0
31101229760000	-76.99613	42.2614	90.6	3164.4	25.8	51.8	84.6	111.6	136.7	2788.0	7303.0
31101229760000	-76.99610	42.2614	90.6	3163.5	25.8	53.9	85.8	114.1	140.0	2694.0	7352.0
31101229780000	-77.67735	42.0322	96.4	3067.8	28.5	56.0	92.5	124.0	151.2	2331.0	6185.0
31101229780000	-77.67735	42.0322	68.3	2186.0	27.1	47.7	82.4	108.7	132.0	2874.0	7072.0
31101229780000	-77.67740	42.0322	96.3	3066.9	28.5	61.5	92.7	123.7	152.7	2362.0	6963.0
31101229780000	-77.67740	42.0322	68.2	2165.9	27.3	54.4	83.7	111.2	137.1	2944.0	7624.0
31101230160000	-77.54100	42.0065	53.8	1538.3	29.1	60.7	84.2	113.8	141.6	3296.0	8274.0
31101230290000	-77.23400	42.3026	25.7	891.8	18.7	38.5	54.2	74.1	93.5	5417.0	11484.0
31101230380000	-77.02325	42.1574	101.4	3083.7	30.0	59.2	97.0	130.0	158.8	2144.0	5793.0
31101230380000	-77.02325	42.1574	90.0	2879.1	28.1	54.9	90.5	121.3	148.1	2459.0	6369.0
31101230380000	-77.02325	42.1574	58.5	1945.2	25.4	44.6	76.6	101.5	123.3	3175.0	7729.0
31101230380000	-77.02330	42.1574	102.9	4020.3	23.4	51.8	81.2	107.5	132.5	2935.0	8109.0
31101230380000	-77.02330	42.1574	90.0	2878.5	28.1	58.0	90.4	119.9	147.6	2494.0	6913.0
31101230390000	-77.54490	42.3831	78.0	2621.3	26.3	53.0	83.2	110.1	135.6	2826.0	7631.0
31101230390000	-77.54490	42.3831	78.0	2620.4	26.4	55.0	83.7	111.5	137.7	2977.0	7749.0
31101230400000	-77.00744	42.0898	95.1	3356.5	25.6	50.8	85.1	114.1	139.0	2697.0	6931.0
31101230400000	-77.00744	42.0898	69.1	2287.1	26.3	46.1	84.4	106.9	129.5	2978.0	7222.0
31101230400000	-77.00740	42.0898	95.1	3358.3	25.6	55.4	85.6	113.7	140.2	2671.0	7587.0
31101230400000	-77.00740	42.0898	69.1	2285.4	26.3	52.1	82.0	108.4	133.5	2945.0	7728.0

31101230540000	-77.01687	42.1786	100.3	3080.6	29.6	58.8	96.0	128.3	156.8	2208.0	5944.0
31101230540000	-77.01687	42.1786	81.7	2891.9	25.1	49.4	81.7	108.9	133.0	2914.0	7397.0
31101230540000	-77.01687	42.1786	41.5	1335.0	24.3	42.7	71.7	95.9	116.7	3419.0	8261.0
31101230540000	-77.01690	42.1786	101.8	3757.6	24.7	55.4	84.2	112.1	138.5	2937.0	7929.0
31101230540000	-77.01690	42.1786	81.7	2891.0	25.2	53.7	81.8	108.9	134.5	3128.0	8020.0
31101230540000	-77.01690	42.1786	41.5	1335.0	24.3	42.7	68.7	90.4	111.4	3737.0	9035.0
31101230550000	-77.00357	42.1677	77.2	3012.3	22.7	44.7	74.7	99.3	121.2	3298.0	8265.0
31101230550000	-77.00357	42.1677	81.3	2816.4	25.7	50.1	83.0	110.9	135.3	2851.0	7197.0
31101230550000	-77.00357	42.1677	52.5	1894.3	22.9	40.2	69.7	91.9	111.6	3599.0	8686.0
31101230550000	-77.00360	42.1677	81.3	2815.7	25.7	54.2	83.0	110.3	136.2	2979.0	7833.0
31101230590000	-77.12335	42.1978	75.8	2712.7	24.6	47.9	79.5	105.8	129.2	3028.0	7644.0
31101230590000	-77.12335	42.1978	47.3	1708.4	22.4	39.3	67.6	89.3	108.6	3722.0	8958.0
31101230590000	-77.12340	42.1978	76.1	2773.7	24.2	52.6	78.5	104.9	130.0	3460.0	8564.0
31101230590000	-77.12340	42.1978	47.3	1708.4	22.4	43.9	67.5	89.8	111.2	4035.0	9518.0
31101230790000	-77.50060	42.0056	47.7	1438.7	26.9	55.8	77.6	105.0	130.9	3699.0	8971.0
31101230850000	-77.14963	42.1644	83.8	2986.1	25.1	49.3	81.8	109.1	133.1	2908.0	7385.0
31101230850000	-77.14963	42.1644	50.8	2016.3	20.7	36.4	64.0	83.8	101.7	4062.0	9560.0
31101230850000	-77.14960	42.1644	83.8	2993.1	25.0	54.1	81.9	109.2	134.9	3187.0	8087.0
31101230850000	-77.14960	42.1644	50.8	2016.3	20.7	41.0	64.7	85.5	105.7	4249.0	9852.0
31101231000000	-77.05115	42.1631	93.9	2887.7	29.4	57.5	94.4	126.5	154.5	2268.0	6012.0
31101231000000	-77.05115	42.1631	49.5	1822.1	22.3	39.0	67.6	89.2	108.4	3737.0	8961.0
31101231000000	-77.05120	42.1631	96.1	3614.9	24.1	52.9	81.9	108.8	134.2	2973.0	8038.0
31101231010000	-77.10656	42.2898	79.0	2789.5	25.1	49.7	81.1	107.5	131.6	2942.0	7623.0
31101231010000	-77.10656	42.2898	49.6	1822.7	22.3	39.0	67.0	87.6	106.8	3817.0	9167.0
31101231050000	-77.03623	42.1145	96.3	3045.6	28.7	56.1	92.9	124.9	152.3	2284.0	6080.0
31101231050000	-77.03620	42.1145	96.3	3049.5	28.6	61.0	93.1	123.9	152.8	2368.0	6823.0
31101231050000	-77.03620	42.1145	52.2	2112.6	20.4	40.1	64.7	85.0	104.9	4226.0	9816.0
31101231100000	-76.97798	42.0800	103.6	3431.1	27.6	54.8	91.4	122.8	149.5	2335.0	6262.0
31101231100000	-76.97800	42.0800	103.7	3473.5	27.3	57.2	92.5	123.8	151.3	2472.0	6584.0
31101231230000	-77.52100	42.1038	47.1	1389.9	27.4	57.1	78.7	106.6	133.0	3666.0	8917.0
31101231500000	-77.13961	42.0971	88.7	3099.2	25.7	50.5	84.3	113.0	137.6	2753.0	7006.0
31101231500000	-77.13960	42.0971	88.7	3098.3	25.7	57.3	84.5	113.1	140.1	3166.0	8038.0
31101231500000	-77.13960	42.0971	59.1	2078.7	24.1	48.9	73.7	98.3	121.8	3664.0	8912.0
31101231500001	-77.13960	42.0970	59.1	2078.7	24.1	48.9	73.7	98.3	121.8	3664.0	8913.0
31101231510000	-77.24310	42.4461	77.7	2485.6	27.7	55.3	86.4	114.4	140.9	2664.0	7293.0

31101231510000	-77.24310	42.4461	78.0	2529.5	27.3	57.2	85.9	114.7	141.7	2909.0	7579.0
31101231510100	-77.24310	42.4461	83.6	2446.3	30.5	60.8	94.3	125.2	154.0	2374.0	6503.0
31101231510100	-77.24310	42.4461	84.0	2503.6	30.0	62.6	93.4	124.8	154.1	2367.0	6845.0
31101231540000	-77.14407	42.2747	89.4	2866.6	28.0	55.6	90.2	119.9	146.8	2538.0	6615.0
31101231540000	-77.14407	42.2747	52.4	1891.9	23.0	40.3	69.2	90.5	110.3	3631.0	8856.0
31101231540000	-77.14410	42.2747	91.4	3466.2	23.8	52.5	80.3	106.8	132.0	3242.0	8293.0
31101231540000	-77.14410	42.2747	52.4	1891.3	23.0	44.6	70.4	93.0	114.8	3765.0	9081.0
31101231550000	-77.09297	42.1861	94.7	3069.6	27.9	55.4	90.8	121.1	148.0	2470.0	6462.0
31101231550000	-77.09297	42.1861	57.2	2054.4	23.5	41.2	71.5	93.8	114.0	3491.0	8503.0
31101231550000	-77.09300	42.1861	94.8	3085.8	27.8	61.1	90.7	121.3	149.9	2618.0	7299.0
31101231550000	-77.09300	42.1861	57.2	2053.7	23.5	46.9	72.1	95.8	118.5	3715.0	8998.0
31101231650000	-77.52180	42.0131	43.8	1439.6	24.2	50.3	70.7	95.7	119.6	4129.0	9666.0
31101231650000	-77.52180	42.0131	48.2	1437.7	27.3	56.7	78.6	106.5	132.7	3643.0	8877.0
31101231720000	-77.33517	42.4954	73.4	2340.6	27.5	55.1	84.9	112.7	138.9	2851.0	7507.0
31101231720000	-77.33520	42.4954	73.6	2369.5	27.3	56.8	84.8	113.3	140.2	2995.0	7719.0
31101231870000	-76.99177	42.1612	53.6	2081.2	21.4	37.6	66.1	86.7	105.1	3883.0	9249.0
31101231870000	-76.99180	42.1612	101.2	2910.8	31.7	68.1	101.4	135.5	167.2	2108.0	6212.0
31101231890000	-77.14804	42.2828	79.8	2631.6	26.9	52.7	85.8	113.9	139.5	2726.0	7056.0
31101231890000	-77.13909	42.2912	53.7	1852.6	24.1	42.4	72.2	94.5	115.3	3425.0	8458.0
31101231890000	-77.14804	42.2828	62.6	1852.6	28.9	50.8	85.0	112.0	136.6	2754.0	6882.0
31101231890000	-77.14800	42.2828	79.8	2629.2	26.9	57.5	85.6	114.4	141.5	3002.0	7733.0
31101231890000	-77.14800	42.2828	65.0	2115.0	26.5	53.0	80.3	106.9	132.2	3200.0	8101.0
31101231900000	-77.00732	42.1142	102.5	2831.3	33.0	63.4	105.9	141.1	172.0	1997.0	4991.0
31101231900000	-77.00732	42.1142	57.4	1776.4	27.3	47.8	86.1	109.1	132.4	2881.0	7006.0
31101231900000	-77.00730	42.1142	102.5	2828.9	33.1	70.8	104.9	140.3	173.1	2014.0	5925.0
31101232110000	-77.00689	42.0515	106.4	3468.0	28.1	55.8	93.2	125.6	152.9	2280.0	6049.0
31101232110000	-77.00690	42.0515	106.4	3467.1	28.1	58.5	94.8	124.4	152.7	2349.0	6429.0
31101232270000	-76.98146	42.0704	100.6	3351.0	27.3	54.1	90.4	121.6	148.1	2384.0	6331.0
31101232270000	-76.98146	42.0704	65.0	2115.0	26.5	46.4	84.7	107.7	130.4	2958.0	7138.0
31101232270000	-76.98150	42.0704	100.8	3420.2	26.8	57.6	89.6	119.0	146.5	2512.0	7099.0
31101238120000	-77.57332	42.1145	49.1	1513.0	26.5	46.5	77.9	104.0	126.7	3085.0	7496.0
31101238120000	-77.57330	42.1145	55.0	2113.5	21.7	46.7	68.3	91.8	114.3	4215.0	9798.0
31101238290000	-77.14912	42.2574	75.6	2672.8	24.9	48.7	80.2	106.4	130.1	2993.0	7648.0
31101238290000	-77.14912	42.2574	58.7	1908.0	26.1	45.7	77.6	102.1	124.4	3113.0	7719.0
31101238290000	-77.14910	42.2574	75.5	2670.4	24.9	53.0	80.0	106.7	131.9	3292.0	8266.0

31101238330000	-77.09330	42.2557	32.0	1068.6	21.5	37.8	58.8	78.2	97.2	4596.0	10367.0
31101238440000	-77.18180	42.2490	72.6	2647.2	24.0	50.1	77.1	102.5	126.6	3393.0	8446.0
31101238450000	-77.74700	42.0442	22.0	750.1	17.3	35.6	50.4	69.1	87.5	5699.0	11838.0
31101238460000	-77.74440	42.0267	21.2	734.3	16.6	34.5	49.0	67.3	85.3	5801.0	11962.0
31101238470000	-77.74100	42.0077	24.0	848.6	17.6	36.6	51.8	70.8	89.5	5602.0	11717.0
31101238660000	-77.04330	42.2607	32.3	1089.4	21.4	44.3	61.7	84.0	105.5	4869.0	10754.0
31101238670000	-76.97950	42.1311	93.3	2756.9	30.6	63.7	96.9	129.1	159.2	2251.0	6393.0
31101238710000	-77.02650	42.0910	95.3	3079.7	28.0	61.8	91.3	122.2	151.1	2636.0	7285.0
31101238710000	-77.02650	42.0910	46.3	1462.7	25.5	47.1	73.0	96.8	119.6	3541.0	8704.0
31101238730000	-77.57990	42.1149	47.5	1573.4	24.5	48.9	71.7	96.2	119.6	3855.0	9229.0
31101238790000	-77.10783	42.1910	77.0	2722.5	25.0	48.5	80.5	107.3	130.9	2974.0	7515.0
31101238790000	-77.10780	42.1910	76.9	2720.0	25.0	52.1	80.3	106.6	131.7	3176.0	8081.0
31101238840000	-77.16090	42.2908	68.4	2586.5	23.0	48.2	73.7	98.1	121.4	3657.0	8902.0
31101238890000	-77.58000	42.1138	51.4	1964.7	21.6	45.2	66.8	89.6	111.6	4254.0	9859.0
31101239020000	-76.99190	42.1722	87.2	2884.0	27.1	56.7	87.5	116.3	143.4	2569.0	7265.0
31101239050000	-77.57970	42.1146	49.6	1659.3	24.5	48.9	71.9	96.4	119.8	3840.0	9205.0
31101239060000	-77.57960	42.1152	47.7	1588.6	24.4	48.6	71.3	95.6	118.9	3889.0	9285.0
31101239060100	-77.57960	42.1152	47.2	1546.0	24.7	49.3	72.2	96.9	120.4	3827.0	9184.0
31101239210000	-76.99130	42.0433	97.1	3519.8	25.0	52.1	85.1	111.8	137.0	2754.0	7380.0
31101239680000	-77.24740	42.0696	42.3	1455.1	22.9	47.7	67.6	91.4	114.3	4337.0	9984.0
31101239850000	-77.24090	42.2516	79.2	2842.3	24.7	51.5	80.1	106.3	131.1	3095.0	8051.0
31101260090000	-77.49900	42.0115	48.9	1494.7	26.7	55.5	77.5	104.9	130.7	3687.0	8951.0
31101260110000	-77.13400	42.2685	79.9	2872.7	24.7	49.0	80.3	106.4	130.3	2984.0	7693.0
31101260110000	-77.13400	42.2685	79.9	2872.7	24.7	51.5	80.3	106.4	131.2	3071.0	8034.0
31101260140000	-77.46960	42.0198	52.5	1473.1	29.6	61.6	84.7	114.7	142.9	3298.0	8277.0
31101260190000	-77.01540	42.0790	95.3	3489.1	24.8	51.8	84.6	112.2	137.3	2793.0	7424.0
31101260430000	-77.19466	42.2733	117.9	2801.4	38.9	76.9	122.0	163.3	200.0	1636.0	4126.0
31101260430000	-77.19470	42.2733	118.0	2810.9	38.8	80.8	121.5	162.5	200.0	1556.0	4555.0
31101260610000	-77.01748	42.0239	98.2	3509.5	25.4	50.4	85.5	114.6	139.3	2660.0	6876.0
31101260610000	-77.01748	42.0239	54.6	2202.2	20.7	36.3	68.1	86.6	104.2	3942.0	9300.0
31101260610000	-77.01750	42.0239	54.6	2201.3	20.7	41.1	65.5	86.4	106.7	4178.0	9743.0
31101260900000	-77.42140	42.2807	35.3	1191.2	22.0	45.9	64.0	87.0	109.1	4683.0	10492.0
31101260910000	-77.42150	42.2779	33.6	1150.9	21.4	44.1	61.9	84.2	105.6	4813.0	10676.0
31101263630000	-77.42150	42.2783	32.2	1126.5	20.6	42.0	59.5	80.9	101.5	4958.0	10876.0
31101263730000	-77.42220	42.2784	33.2	1075.3	22.5	45.1	63.4	86.1	107.9	4668.0	10470.0

31101263740000	-77.42220	42.2788	41.4	1153.4	28.1	57.9	78.3	106.5	133.1	3785.0	9115.0
31101264120000	-77.42150	42.2792	27.9	1136.3	16.6	34.0	50.0	67.9	85.5	5627.0	11748.0
31101264240000	-77.42150	42.2798	27.4	1095.8	16.8	33.7	49.8	67.5	85.1	5620.0	11740.0
31101264400000	-77.42150	42.2790	32.7	1167.1	20.3	42.1	59.5	80.9	101.6	4982.0	10909.0
31105085780000	-74.87540	41.9115	77.4	2525.0	27.1	68.9	87.7	122.3	154.4	2872.0	7572.0
31105128610000	-74.68080	41.7141	69.1	2517.3	23.9	60.7	78.1	108.6	137.2	3479.0	8597.0
31107095570000	-76.33690	42.1461	47.4	1563.9	24.6	53.2	73.5	99.9	124.9	3959.0	9397.0
31107098480000	-76.45170	42.0759	76.6	1593.5	42.5	91.3	123.3	167.4	207.7	1649.0	4988.0
31107177880000	-76.11090	42.1100	41.7	1357.3	24.1	52.5	71.4	97.3	121.9	4204.0	9782.0
31107204250000	-76.19490	42.1237	41.2	1604.5	20.1	43.6	61.9	84.0	105.3	4752.0	10590.0
31107204270000	-76.21670	42.0362	44.3	1687.1	20.9	45.7	64.6	87.6	109.7	4546.0	10294.0
31107205310000	-76.22230	42.0336	46.1	1649.0	22.5	48.9	68.6	93.0	116.4	4261.0	9870.0
31107205320000	-76.24140	42.0566	45.8	1570.9	23.5	50.5	70.4	95.5	119.5	4139.0	9681.0
31107205340000	-76.22790	42.0225	46.9	1671.5	22.7	49.4	69.2	93.9	117.5	4220.0	9806.0
31107206440000	-76.25500	42.0253	48.3	1594.7	24.7	53.6	74.0	100.5	125.7	3925.0	9342.0
31107206450000	-76.19670	42.0342	48.3	1592.6	24.7	53.8	74.2	100.8	126.0	3935.0	9359.0
31107206610000	-76.19650	42.0213	47.4	1561.5	24.6	53.5	73.7	100.2	125.3	3963.0	9404.0
31107212640000	-76.27510	42.0239	48.8	1639.2	24.3	52.9	73.3	99.5	124.4	3961.0	9400.0
31107212650000	-76.27520	42.0320	50.2	1615.4	25.5	55.3	76.3	103.7	129.5	3766.0	9083.0
31107212720000	-76.29760	42.0106	50.7	1662.7	25.1	54.7	75.6	102.6	128.2	3809.0	9154.0
31107212940000	-76.27320	42.0118	42.9	1602.6	21.1	46.0	64.7	87.9	110.1	4553.0	10305.0
31107213000000	-76.19730	42.0492	38.8	1434.7	20.7	44.9	62.9	85.5	107.3	4727.0	10555.0
31107213750000	-76.31340	42.0133	51.2	1706.0	24.7	53.9	74.8	101.5	126.8	3839.0	9203.0
31107214200000	-76.17810	42.0501	41.3	1412.4	22.9	49.5	68.3	92.9	116.4	4368.0	10031.0
31107214210000	-76.28500	42.0108	36.0	1585.9	17.0	37.0	53.8	72.8	91.6	5368.0	11421.0
31107214240000	-76.20870	42.0424	46.5	1533.1	24.5	53.2	73.3	99.6	124.6	4002.0	9467.0
31107214510000	-76.15900	42.0498	43.1	1470.1	23.2	50.5	69.5	94.6	118.5	4281.0	9900.0
31107214520000	-76.18140	42.0554	49.1	1467.0	27.4	59.7	80.5	109.6	137.0	3615.0	8831.0
31107214620000	-76.16040	42.0554	42.8	1397.5	24.2	52.4	71.6	97.5	122.1	4159.0	9713.0
31107214970000	-76.27440	42.0180	43.7	1627.0	21.3	46.4	65.3	88.7	111.0	4504.0	10233.0
31107215020000	-76.13630	42.0724	43.6	1422.5	24.3	53.0	72.3	98.5	123.4	4118.0	9648.0
31107215470000	-76.25520	42.0290	50.1	1652.9	24.8	54.1	74.9	101.7	127.0	3857.0	9232.0
31107215520000	-76.23840	42.0332	46.3	1563.9	23.9	51.9	71.8	97.5	122.0	4084.0	9596.0
31107217080000	-76.30050	42.0023	48.2	1586.5	24.7	53.7	74.2	100.7	125.9	3919.0	9333.0
31107217090000	-76.32390	42.0028	43.9	1499.9	23.3	50.1	69.6	94.6	118.4	4219.0	9805.0

31107228200000	-76.19873	42.0459	44.9	1483.5	24.2	49.2	79.5	108.5	132.6	3084.0	7379.0
31107228200000	-76.19870	42.0459	44.8	1481.0	24.2	52.8	72.3	98.4	123.2	4097.0	9615.0
31107228210000	-76.19095	42.0472	54.3	1533.4	29.6	59.9	95.2	130.8	160.2	2349.0	5646.0
31107228210000	-76.19100	42.0472	54.3	1531.0	29.6	65.0	86.9	118.4	147.8	3279.0	8243.0
31107228600000	-76.19047	42.0499	40.7	1456.6	21.8	44.3	72.3	98.4	120.0	3509.0	8339.0
31107228600000	-76.19050	42.0499	40.7	1456.6	21.8	47.3	65.7	89.4	112.1	4535.0	10278.0
31107228870000	-76.20060	42.0401	44.3	1529.5	23.1	46.8	76.1	103.7	126.6	3296.0	7812.0
31107228870000	-76.20060	42.0401	44.2	1527.1	23.1	50.2	69.5	94.5	118.3	4247.0	9848.0
31107228950000	-76.27594	42.0233	50.3	1623.1	25.4	51.3	83.0	113.2	138.3	2908.0	6949.0
31107228950000	-76.27590	42.0233	50.5	1639.5	25.3	55.1	76.0	103.3	129.0	3793.0	9127.0
31107228960000	-76.20840	42.0472	38.1	1471.3	19.8	40.2	66.4	89.9	109.5	3813.0	9208.0
31107228960000	-76.20840	42.0472	38.1	1470.4	19.8	43.0	60.6	82.4	103.4	4891.0	10785.0
31107229000000	-76.26536	42.0239	42.4	1608.1	20.7	41.9	69.2	93.6	114.0	3715.0	8798.0
31107229000000	-76.26540	42.0239	42.4	1607.5	20.8	45.1	63.7	86.4	108.3	4621.0	10403.0
31107229270000	-76.19095	42.0472	36.4	1280.2	21.4	48.1	74.8	106.0	129.5	3195.0	7929.0
31107229270000	-76.19100	42.0472	39.2	1526.7	19.8	43.5	61.1	83.1	104.4	4869.0	10754.0
31107229310000	-76.18670	42.0467	37.3	1503.9	18.8	41.1	58.4	79.3	99.7	5056.0	11010.0
31107229320000	-76.19581	42.0428	34.8	1240.5	20.8	48.1	74.2	106.3	129.8	3173.0	8004.0
31107229320000	-76.19580	42.0428	38.2	1535.0	19.0	41.7	59.1	80.3	100.8	5005.0	10941.0
31107229340000	-76.40979	42.0578	88.2	3521.0	22.5	48.4	76.1	105.7	129.4	3244.0	7794.0
31107229340000	-76.40979	42.0578	63.0	2441.4	22.1	43.6	73.0	97.3	118.6	3539.0	8359.0
31107229340000	-76.40980	42.0578	88.2	3552.4	22.3	49.1	76.8	105.4	129.3	3186.0	8150.0
31107229340000	-76.40980	42.0578	63.0	2440.5	22.1	46.7	72.6	97.5	120.2	3412.0	8659.0
31107229340100	-76.40979	42.0578	79.0	3390.3	20.7	44.4	70.5	97.6	119.4	3564.0	8557.0
31107229340100	-76.40980	42.0578	79.3	3516.2	20.0	43.9	69.4	94.2	115.7	3609.0	9128.0
31107229340101	-76.40980	42.0580	79.3	3516.2	20.0	43.9	69.4	94.0	115.5	3620.0	9137.0
31107229730000	-76.24856	42.0253	41.4	1574.0	20.6	41.7	68.8	93.2	113.6	3715.0	8843.0
31107229730000	-76.24860	42.0253	41.4	1573.1	20.6	44.7	63.1	85.7	107.4	4666.0	10467.0
31107229740000	-76.31319	42.1055	88.9	3151.6	25.4	54.1	83.9	116.7	143.2	2788.0	6841.0
31107229740000	-76.31319	42.1055	35.2	1278.3	20.5	45.1	71.0	98.6	120.6	3461.0	8543.0
31107229740000	-76.31320	42.1055	89.0	3188.8	25.1	58.0	82.9	111.9	139.2	3278.0	8241.0
31107229740000	-76.31320	42.1055	35.2	1275.9	20.5	40.4	61.0	81.6	101.6	4535.0	10278.0
31107231160000	-76.18640	42.1713	88.7	3098.0	25.7	55.3	84.3	116.5	143.4	2776.0	6947.0
31107231160000	-76.18640	42.1713	88.6	3064.8	26.0	56.6	85.4	114.6	141.7	2707.0	7412.0
31107231160100	-76.18640	42.1713	88.4	3015.1	26.3	56.5	85.9	118.9	146.4	2695.0	6753.0

31107231160100	-76.18640	42.1713	88.4	3013.0	26.3	57.1	86.1	115.1	142.5	2679.0	7347.0
31107231850000	-76.53235	42.1602	63.4	2120.8	25.6	50.2	80.2	108.5	133.0	2991.0	7300.0
31107231850000	-76.53235	42.1602	84.2	2957.2	25.4	54.2	83.2	115.1	141.5	2831.0	6991.0
31107231850000	-76.53240	42.1602	91.5	2960.2	27.9	62.2	90.4	121.7	151.0	2507.0	7194.0
31107231850000	-76.53240	42.1602	51.7	1991.9	21.4	45.9	69.0	92.3	114.6	3975.0	9422.0
31107231920000	-76.26401	42.0619	82.9	3043.7	24.3	51.2	80.0	111.4	136.5	3003.0	7235.0
31107231920000	-76.26401	42.0619	75.3	2543.6	26.1	52.4	85.1	114.8	140.5	2857.0	6816.0
31107231920000	-76.26400	42.0619	82.9	3042.8	24.3	53.7	80.0	107.3	133.0	3125.0	8130.0
31107238410000	-76.31270	42.0035	42.7	1592.6	21.2	46.2	64.9	88.1	110.3	4549.0	10298.0
31107238420000	-76.22280	42.0332	44.2	1576.7	22.4	47.6	67.2	91.1	113.9	4321.0	9961.0
31107238550001	-76.44105	42.1688	83.8	2990.1	25.0	53.6	82.0	113.4	139.4	2902.0	7173.0
31107238550001	-76.44105	42.1688	59.5	2124.8	23.8	46.7	74.9	101.0	123.8	3270.0	8016.0
31107238550001	-76.44110	42.1688	59.5	2122.3	23.8	50.0	74.0	99.2	123.3	3621.0	8839.0
31107238800000	-76.47835	42.2029	82.9	2692.0	27.5	57.7	88.6	121.4	149.3	2634.0	6522.0
31107238800000	-76.47840	42.2029	82.9	2689.6	27.5	59.8	87.7	118.0	146.3	2607.0	7311.0
31107238830000	-76.48470	42.0806	92.6	3277.8	25.5	57.2	84.7	113.7	141.0	2758.0	7681.0
31107238830000	-76.48470	42.0806	60.4	2316.2	22.2	47.8	72.5	96.7	119.9	3694.0	8963.0
31107239270000	-76.53608	42.1920	87.0	2958.4	26.4	56.5	86.0	118.9	146.3	2701.0	6753.0
31107239270000	-76.53610	42.1920	87.0	2957.5	26.4	57.3	85.8	115.0	142.5	2674.0	7391.0
31107239450000	-76.34350	42.1751	81.0	2988.3	24.1	54.0	79.3	106.5	132.3	3343.0	8357.0
31107239450001	-76.34350	42.1751	59.2	2153.4	23.3	50.1	74.6	99.9	124.1	3584.0	8777.0
31107239880000	-76.51950	42.1376	88.6	3072.7	25.9	56.4	85.4	113.8	140.9	2716.0	7447.0
31107239960000	-76.47120	42.1341	88.8	3115.1	25.6	55.8	85.0	112.9	139.7	2748.0	7505.0
31107260130000	-76.49390	42.2028	87.5	2834.6	27.7	60.3	89.2	119.8	148.4	2535.0	7099.0
31107260130001	-76.49390	42.2028	87.6	2840.7	27.7	60.2	89.1	119.7	148.3	2538.0	7111.0
31107263750000	-76.29170	42.0669	46.8	1457.6	25.9	56.3	76.6	104.3	130.4	3829.0	9187.0
31107263750000	-76.29170	42.0669	52.4	1414.3	30.7	65.8	88.2	120.0	149.8	3174.0	8052.0
31109039730000	-76.50596	42.3703	86.8	3179.4	24.5	52.4	81.4	107.8	133.1	2936.0	7804.0
31109039730000	-76.50600	42.3703	86.2	3181.5	24.3	53.2	80.9	110.4	136.0	2931.0	7787.0
31109039730000	-76.50600	42.3703	86.8	3179.4	24.5	53.6	81.5	111.1	137.0	2890.0	7726.0
31109040070000	-76.50298	42.3655	90.2	2607.0	31.1	66.8	100.0	136.1	168.0	2238.0	5745.0
31109040070000	-76.50298	42.3655	80.2	2524.4	28.2	60.2	91.0	123.4	152.3	2574.0	6570.0
31109040070000	-76.50300	42.3655	90.2	2607.0	31.1	67.1	97.8	131.6	163.1	2311.0	6349.0
31109040070000	-76.50300	42.3655	80.2	2524.4	28.2	60.0	88.5	118.8	147.2	2591.0	7188.0
31109041300000	-76.59246	42.4422	81.3	2712.7	26.7	56.3	85.2	113.8	140.8	2731.0	7408.0

31109041300000	-76.59250	42.4422	81.3	2713.3	26.7	58.1	85.5	114.9	142.5	2750.0	7535.0
31109044670000	-76.54041	42.3844	88.8	2859.6	27.9	58.8	89.8	120.0	148.3	2657.0	6816.0
31109044670000	-76.54040	42.3844	88.8	2859.3	27.9	60.7	89.9	120.8	149.6	2511.0	7021.0
31109102430000	-76.66810	42.4011	33.2	1119.8	21.6	47.0	63.9	87.4	109.9	4802.0	10661.0
31109131730000	-76.50490	42.5230	35.6	847.0	31.4	68.3	86.2	118.5	148.6	3747.0	9051.0
31109212620000	-76.29620	42.5539	18.6	635.5	15.1	32.0	45.7	62.9	80.0	6030.0	12234.0
31109217110000	-76.30201	42.5217	20.6	656.2	17.6	41.4	64.1	85.1	105.5	4483.0	10230.0
31109217110000	-76.30200	42.5217	20.5	653.8	17.7	38.0	52.5	72.2	91.4	5642.0	11766.0
31109217160000	-76.30071	42.5111	71.3	2276.2	27.4	58.7	87.9	117.7	145.7	2586.0	7204.0
31109217160000	-76.30071	42.5111	21.3	705.0	17.5	41.0	63.8	84.6	104.9	4495.0	10265.0
31109217160000	-76.30070	42.5111	71.2	2273.8	27.4	62.5	85.7	116.3	145.0	3289.0	8261.0
31109227530000	-76.67302	42.4904	67.9	2274.4	25.9	55.7	82.9	111.1	137.7	2949.0	7783.0
31109227530000	-76.67300	42.4904	67.9	2272.6	25.9	56.4	81.1	109.3	135.9	3259.0	8207.0
31109227670000	-76.63581	42.5120	68.4	2272.0	26.2	56.3	83.7	112.2	139.0	2888.0	7703.0
31109227670000	-76.63580	42.5120	68.4	2270.8	26.2	57.0	81.8	110.3	137.2	3218.0	8133.0
31109227890000	-76.27994	42.5429	70.0	2326.8	26.2	56.4	83.8	112.4	139.3	2861.0	7677.0
31109227890000	-76.27990	42.5429	69.9	2323.8	26.2	59.5	82.6	112.0	139.6	3387.0	8435.0
31109227890100	-76.27990	42.5429	78.0	2364.6	29.2	66.4	91.2	123.8	154.1	2944.0	7623.0
31109229970000	-76.55004	42.3273	87.0	2724.9	28.6	61.6	92.6	126.3	155.9	2487.0	6365.0
31109229970000	-76.55000	42.3273	87.0	2724.0	28.6	61.9	91.2	122.5	151.8	2467.0	6918.0
31109229970100	-76.55004	42.3273	87.1	2757.8	28.3	61.0	91.8	125.1	154.4	2528.0	6447.0
31109229970100	-76.55000	42.3273	87.3	2784.4	28.1	61.3	90.2	121.2	150.2	2494.0	7037.0
31109229970200	-76.55004	42.3273	88.9	2767.0	28.9	62.1	93.4	127.3	157.1	2457.0	6295.0
31109229970200	-76.55000	42.3273	89.5	2895.6	27.8	61.0	89.8	120.8	149.7	2505.0	7093.0
31109229980000	-76.63839	42.4246	73.7	2468.0	26.2	56.4	85.2	113.9	141.0	2693.0	7451.0
31109229980000	-76.63840	42.4246	73.7	2467.1	26.2	57.3	83.0	111.8	138.9	3107.0	7930.0
31109229980100	-76.63839	42.4246	73.6	2441.8	26.4	56.9	85.8	114.8	142.0	2667.0	7383.0
31109229980100	-76.63840	42.4246	73.8	2475.9	26.2	57.2	82.9	111.6	138.6	3117.0	7948.0
31109229980200	-76.63839	42.4246	73.5	2434.4	26.5	57.0	86.0	115.0	142.3	2660.0	7365.0
31109229980200	-76.63840	42.4246	73.7	2467.1	26.2	57.3	83.0	111.8	138.9	3107.0	7930.0
31109229980200	-76.63840	42.4246	69.9	2400.3	25.4	55.0	80.1	107.7	133.9	3266.0	8220.0
31109229980400	-76.63839	42.4246	67.2	2409.4	24.2	52.0	79.1	105.5	130.6	3103.0	8130.0
31109229980400	-76.63840	42.4246	67.2	2407.0	24.2	52.4	76.7	103.1	128.1	3480.0	8599.0
31109260390000	-76.57520	42.5861	56.6	1983.0	24.0	52.3	74.3	100.4	125.2	3772.0	9093.0
31109260560000	-76.53400	42.6221	55.4	1853.8	25.0	54.5	76.4	103.5	129.2	3680.0	8940.0

31111045150000	-74.21490	41.7381	78.6	2445.4	28.5	60.7	89.0	119.4	147.9	2704.0	7283.0
31111057830000	-74.34540	41.7004	88.5	2921.8	27.2	58.0	88.1	117.6	145.3	2613.0	7172.0
31111157250000	-74.12666	41.6625	60.2	2142.4	23.9	50.9	77.1	102.8	127.2	3418.0	8489.0
31111157250000	-74.12666	41.6625	31.7	1175.9	19.3	43.6	67.6	89.7	111.1	4206.0	9785.0
31111157250000	-74.12670	41.6625	60.2	2139.7	23.9	53.5	75.1	101.6	126.7	3893.0	9291.0
31111157250000	-74.12670	41.6625	31.7	1175.9	19.3	42.7	62.0	83.6	104.6	4764.0	10607.0
31115183700000	-73.51922	43.0174	69.7	2365.9	25.7	57.7	81.0	109.5	136.4	3500.0	8632.0
31115183700000	-73.51922	43.0174	33.3	841.2	28.9	63.7	89.0	120.2	149.4	3042.0	7808.0
31117050320000	-76.89576	43.0593	37.5	1193.3	23.9	49.8	68.6	93.3	116.9	4391.0	10065.0
31117050320000	-76.89580	43.0593	37.5	1193.6	23.9	49.7	68.5	93.2	116.7	4384.0	10055.0
31117067190000	-76.94349	43.0291	36.9	1234.4	22.6	47.1	65.7	89.2	111.7	4556.0	10309.0
31117067190000	-76.94350	43.0291	36.9	1234.4	22.6	47.1	65.6	89.2	111.7	4555.0	10308.0
31117230150000	-76.76732	43.1564	33.8	1207.0	20.5	44.0	61.1	83.3	104.7	4977.0	10903.0
31117230150000	-76.76730	43.1564	33.8	1207.0	20.5	42.8	60.4	82.0	103.0	4924.0	10830.0
31117230180000	-76.79079	43.1743	33.9	1126.8	22.1	46.8	64.3	87.6	110.0	4767.0	10611.0
31117230180000	-76.79080	43.1743	33.9	1126.9	22.1	45.6	63.5	86.4	108.4	4723.0	10549.0
31117230870000	-76.83015	43.0863	31.8	1138.7	20.0	41.5	58.7	79.8	100.3	5052.0	11005.0
31117230870000	-76.83020	43.0863	31.8	1136.9	20.0	42.0	59.0	80.3	101.0	5064.0	11021.0
31117231480100	-76.84430	43.0836	34.3	1076.9	23.5	47.5	66.0	89.7	112.4	4517.0	10252.0
31117231480100	-76.84430	43.0836	35.4	1155.2	22.8	49.0	66.6	90.9	114.1	4667.0	10469.0
31117239260000	-76.76970	43.1599	25.2	859.2	18.9	36.9	53.5	72.7	91.5	5326.0	11367.0
31117264250000	-76.78160	43.1629	40.6	1552.7	20.4	43.4	62.1	84.0	105.2	4773.0	10619.0
31121032410000	-78.44799	42.5278	38.6	1025.7	28.9	55.1	79.0	106.6	132.6	3174.0	8053.0
31121040920000	-78.07991	42.6174	62.9	1944.9	27.7	62.2	85.0	115.7	144.4	3187.0	8077.0
31121040920000	-78.07990	42.6174	62.9	1944.6	27.7	62.7	85.1	116.0	144.9	3234.0	8161.0
31121041330000	-78.11667	42.8306	44.9	1641.7	21.9	49.4	67.8	92.4	116.0	4416.0	10103.0
31121041330000	-78.11670	42.8306	45.2	1669.1	21.7	48.6	67.2	91.6	114.8	4401.0	10081.0
31121043920000	-78.19754	42.7477	59.9	1741.9	29.2	64.9	87.6	119.4	149.0	3103.0	7921.0
31121043920000	-78.19750	42.7477	59.9	1741.6	29.2	65.8	88.0	120.1	150.0	3147.0	8002.0
31121044360000	-78.13836	42.8183	56.2	1706.0	27.7	62.6	83.7	114.3	142.9	3428.0	8508.0
31121044360000	-78.13840	42.8183	56.2	1706.0	27.7	62.6	83.7	114.3	142.9	3432.0	8514.0
31121044470000	-78.14982	42.8027	51.3	1720.6	24.6	55.6	75.4	102.9	128.8	3889.0	9284.0
31121044470000	-78.14980	42.8027	51.3	1720.3	24.6	56.1	75.6	103.2	129.3	3939.0	9365.0
31121044640000	-78.09642	42.8384	52.3	1713.0	25.3	57.7	77.5	105.9	132.6	3830.0	9188.0
31121044640000	-78.09640	42.8384	52.4	1716.0	25.3	56.7	77.1	105.1	131.5	3737.0	9035.0

31121045360000	-78.13817	42.8268	69.7	1899.8	32.0	73.7	96.9	132.4	165.3	2825.0	7394.0
31121045360000	-78.13820	42.8268	69.7	1900.7	32.0	71.9	96.5	131.6	164.1	2670.0	7087.0
31121045620000	-78.14460	42.7939	21.0	761.7	15.8	34.7	48.7	67.0	85.0	5895.0	12074.0
31121046010000	-78.14970	42.8106	19.9	757.7	14.4	31.8	45.4	62.5	79.5	6089.0	12303.0
31121046350000	-78.13530	42.7948	19.9	799.8	13.7	30.7	44.2	60.8	77.5	6166.0	12392.0
31121072340000	-78.11113	42.7845	45.6	1495.0	24.5	53.0	72.7	99.0	123.9	3994.0	9454.0
31121072340000	-78.11110	42.7845	45.6	1494.7	24.5	54.9	73.9	101.0	126.6	4051.0	9544.0
31121072780000	-78.09090	42.7975	51.4	1516.4	27.9	61.7	82.7	112.8	141.1	3457.0	8558.0
31121072780000	-78.09090	42.7975	51.3	1516.1	27.9	62.6	83.2	113.7	142.3	3483.0	8604.0
31121109170000	-78.44360	42.7612	29.8	681.5	30.6	68.3	84.3	116.4	146.3	4079.0	9587.0
31121109390000	-78.41762	42.7668	49.5	1652.0	24.5	54.2	74.3	101.1	126.6	3889.0	9284.0
31121109390000	-78.41760	42.7668	49.4	1648.1	24.5	56.0	75.2	102.7	128.7	3996.0	9456.0
31121113110000	-78.34710	42.7551	25.8	872.0	19.3	43.2	58.0	79.9	101.0	5353.0	11402.0
31121119890000	-78.07900	42.6775	33.5	1015.0	24.1	54.8	71.1	97.8	123.1	4559.0	10314.0
31121121780000	-78.17487	42.7908	65.3	1623.1	34.7	76.7	101.4	138.4	172.6	2527.0	6797.0
31121121780000	-78.17490	42.7908	65.3	1622.2	34.7	78.0	102.1	139.5	174.1	2570.0	6885.0
31121130820000	-78.36640	42.7060	22.1	876.0	15.0	33.6	47.5	65.3	83.0	5969.0	12162.0
31121130840000	-78.41900	42.6511	23.1	866.9	16.3	36.4	50.6	69.6	88.3	5788.0	11945.0
31121130850000	-78.32900	42.6106	28.5	1058.3	18.5	41.3	56.6	77.6	98.0	5361.0	11413.0
31121132410000	-78.19360	42.6571	31.7	1049.1	21.7	48.5	64.6	88.7	111.7	4851.0	10729.0
31121132420000	-78.15530	42.6500	29.2	983.9	20.5	46.0	61.5	84.5	106.6	5082.0	11045.0
31121132680000	-78.18090	42.5819	31.6	1070.2	21.1	47.3	63.3	86.8	109.4	4928.0	10836.0
31121132780000	-78.39443	42.5347	61.2	2002.2	26.1	56.5	79.7	108.0	134.6	3346.0	8363.0
31121132780000	-78.39440	42.5347	61.2	2002.2	26.1	58.6	80.7	109.8	137.1	3414.0	8484.0
31121133080000	-78.14110	42.5280	34.5	1133.3	22.5	50.4	67.1	92.1	115.8	4651.0	10447.0
31121136620000	-78.08610	42.7708	22.0	828.8	15.7	34.6	48.6	66.9	84.9	5884.0	12062.0
31121136640000	-78.02640	42.7718	25.8	818.4	20.5	45.9	60.8	83.7	105.7	5216.0	11223.0
31121137250000	-78.41480	42.6464	26.2	887.3	19.4	43.4	58.3	80.2	101.4	5326.0	11367.0
31121137900000	-78.37890	42.5988	29.4	1043.0	19.6	43.9	59.4	81.5	102.9	5188.0	11186.0
31121138420000	-78.10100	42.6825	26.8	889.4	20.0	44.8	59.9	82.3	104.0	5236.0	11250.0
31121138690000	-77.99490	42.6458	27.2	920.5	19.8	44.3	59.4	81.7	103.2	5242.0	11257.0
31121138910000	-78.04800	42.7717	23.5	818.7	17.8	39.6	54.0	74.3	94.2	5600.0	11714.0
31121138920000	-78.08420	42.7587	25.3	822.4	19.8	44.3	59.1	81.4	102.9	5315.0	11352.0
31121139190000	-78.07680	42.7587	22.1	831.5	15.7	35.2	49.2	67.6	85.9	5884.0	12062.0
31121139690000	-77.96520	42.8449	18.8	684.6	14.3	31.9	45.3	62.5	79.6	6112.0	12330.0

31121139930000	-78.35190	42.8477	26.3	667.2	25.9	58.2	73.3	101.2	127.6	4656.0	10454.0
31121139940000	-78.36230	42.8466	17.7	648.6	13.4	30.0	43.2	59.6	76.1	6226.0	12461.0
31121139950000	-78.34200	42.8520	18.1	675.4	13.5	30.2	43.4	59.9	76.4	6214.0	12446.0
31121139960000	-78.02370	42.8067	24.4	760.8	20.2	45.3	59.9	82.5	104.3	5300.0	11333.0
31121141630000	-78.33750	42.6621	31.6	996.4	22.7	50.8	66.9	92.0	115.8	4745.0	10580.0
31121141650000	-78.36020	42.6394	33.3	1040.0	23.4	52.3	68.9	94.5	119.0	4603.0	10377.0
31121143780000	-77.96740	42.7532	24.1	820.2	18.4	41.3	55.8	76.8	97.2	5506.0	11597.0
31121144270000	-77.99500	42.7512	23.7	830.6	17.7	39.7	54.0	74.4	94.2	5601.0	11716.0
31121144830000	-77.95920	42.7077	23.0	784.3	17.9	40.1	54.4	74.9	94.8	5600.0	11714.0
31121152190000	-78.07150	42.5625	35.8	1105.2	24.3	54.7	71.6	98.4	123.7	4430.0	10124.0
31121152190000	-78.07150	42.5625	33.6	1024.7	24.0	53.1	69.9	95.9	120.6	4495.0	10221.0
31121152200000	-78.04620	42.6047	33.6	1024.7	24.0	53.7	70.4	96.6	121.5	4508.0	10239.0
31121152200000	-78.04620	42.6047	27.5	1023.8	18.1	40.3	55.4	76.0	96.1	5439.0	11512.0
31121153850000	-78.41860	42.6960	24.6	813.4	19.2	42.9	57.5	79.2	100.2	5408.0	11472.0
31121153850000	-78.41860	42.6960	25.1	813.2	19.8	44.4	59.2	81.5	103.0	5311.0	11347.0
31121153860000	-78.39130	42.7015	23.6	860.5	17.0	38.0	52.3	71.9	91.1	5695.0	11833.0
31121153870000	-78.41460	42.7120	24.7	820.8	19.1	42.8	57.4	79.1	100.0	5410.0	11474.0
31121155690000	-78.05670	42.7836	24.2	803.5	18.9	42.1	56.7	78.0	98.7	5442.0	11516.0
31121155700000	-78.02320	42.8000	22.8	767.5	18.0	40.2	54.4	75.0	95.0	5599.0	11714.0
31121158520000	-78.44040	42.7136	22.7	762.0	18.0	40.4	54.6	75.2	95.3	5600.0	11715.0
31121159330000	-78.00070	42.7278	28.0	895.5	21.2	47.5	62.8	86.4	109.0	5053.0	11006.0
31121160170000	-78.36220	42.7354	29.8	755.3	27.6	61.7	77.7	107.1	134.7	4330.0	9975.0
31121160570000	-78.41310	42.6985	22.5	821.1	16.4	36.7	50.8	69.9	88.7	5791.0	11950.0
31121160720000	-78.42360	42.7029	23.9	805.9	18.5	41.5	55.9	77.0	97.5	5504.0	11595.0
31121160760000	-78.42410	42.7168	25.2	778.2	20.8	46.5	61.3	84.5	106.8	5204.0	11208.0
31121160900000	-78.43780	42.7352	21.0	720.1	16.6	37.3	51.1	70.5	89.5	5802.0	11963.0
31121162660000	-78.43390	42.7243	20.2	739.8	15.1	33.8	47.4	65.3	83.0	5997.0	12195.0
31121162710000	-78.40640	42.7129	25.9	831.2	20.4	45.6	60.6	83.4	105.3	5219.0	11227.0
31121162730000	-78.41280	42.7182	22.9	814.7	17.1	38.3	52.5	72.3	91.6	5697.0	11835.0
31121163430000	-78.40740	42.7079	23.9	842.2	17.7	39.6	54.0	74.3	94.1	5602.0	11717.0
31121168870000	-78.35348	42.7995	20.1	732.4	15.1	29.0	44.2	59.7	75.3	5972.0	12165.0
31121168870000	-78.35320	42.7996	20.1	734.0	15.1	33.8	47.5	65.4	83.2	5998.0	12197.0
31121170480000	-78.02240	42.7899	26.6	798.0	22.0	49.4	64.5	88.8	112.1	5018.0	10958.0
31121170800000	-77.97900	42.7834	26.7	770.8	23.0	51.6	66.7	92.0	116.0	4909.0	10810.0
31121170820000	-77.96220	42.7791	21.9	745.2	17.3	38.8	52.9	72.9	92.4	5700.0	11838.0

31121171880000	-78.41285	42.7504	21.8	701.0	18.3	35.3	52.0	70.2	88.3	5325.0	11365.0
31121171880000	-78.41260	42.7505	23.3	803.5	17.8	40.7	54.8	75.5	95.7	5628.0	11749.0
31121172270000	-78.00060	42.8500	18.6	671.5	14.3	32.0	45.4	62.6	79.7	6117.0	12335.0
31121172380000	-77.98290	42.8352	18.8	686.4	14.3	32.0	45.5	62.7	79.8	6111.0	12329.0
31121172610000	-78.33527	42.7345	19.5	655.3	16.0	30.4	46.1	62.1	78.2	5808.0	11970.0
31121172610000	-78.33500	42.7346	23.0	896.1	15.6	35.8	49.6	68.4	86.8	5894.0	12073.0
31121172940000	-78.04770	42.7735	25.1	850.1	18.9	42.6	57.3	78.8	99.7	5420.0	11488.0
31121176230000	-78.39193	42.7437	21.6	824.5	15.3	29.2	44.8	60.3	76.0	5919.0	12103.0
31121176230000	-78.39170	42.7437	21.6	824.5	15.3	34.3	48.2	66.3	84.2	5941.0	12129.0
31121179950000	-78.36844	42.8593	15.1	616.9	10.0	19.2	32.2	43.4	55.3	6745.0	13045.0
31121179970000	-78.37171	42.8505	15.7	609.3	11.0	21.2	34.5	46.5	59.2	6631.0	12931.0
31121180570000	-78.34894	42.8221	18.2	705.3	13.1	25.2	39.4	53.2	67.3	6346.0	12595.0
31121180580000	-78.34400	42.7940	20.4	744.0	15.4	34.4	48.1	66.3	84.3	5957.0	12148.0
31121180590000	-78.35329	42.7785	23.9	804.4	18.5	35.3	52.2	70.4	88.5	5299.0	11332.0
31121180590000	-78.35300	42.7786	23.9	804.4	18.5	41.5	55.9	77.0	97.5	5503.0	11594.0
31121181480000	-78.37408	42.7971	17.6	757.4	11.4	21.9	35.5	47.8	60.6	6599.0	12899.0
31121181490000	-78.39069	42.7264	25.7	855.9	19.6	37.3	54.9	74.1	93.0	5048.0	10999.0
31121181490000	-78.39040	42.7264	25.7	855.9	19.6	43.8	58.7	80.8	102.1	5321.0	11360.0
31121181730000	-78.41505	42.7592	23.0	778.8	17.9	34.3	50.9	68.7	86.4	5410.0	11474.0
31121181730000	-78.41480	42.7592	23.0	778.8	17.9	38.5	53.1	73.0	92.4	5582.0	11692.0
31121182000000	-78.31712	42.8203	18.1	751.9	12.1	23.2	37.1	49.9	63.3	6501.0	12777.0
31121182010000	-78.39384	42.7681	23.9	751.3	19.9	38.3	55.7	75.4	94.6	5010.0	10948.0
31121182010000	-78.39360	42.7681	23.7	751.3	19.5	42.8	57.4	79.0	99.9	5389.0	11448.0
31121182010000	-78.39360	42.7681	23.8	751.3	19.7	43.1	57.8	79.5	100.5	5369.0	11422.0
31121182020000	-78.35594	42.7703	23.8	830.3	17.9	34.0	50.6	68.3	85.9	5424.0	11493.0
31121182020000	-78.35590	42.7703	23.8	830.3	17.9	40.0	54.4	74.9	94.8	5583.0	11693.0
31121182030000	-78.36020	42.5511	34.5	1130.8	22.5	50.5	67.2	92.1	115.9	4651.0	10446.0
31121182080000	-78.32560	42.5563	37.6	1160.1	24.7	55.3	72.8	99.9	125.5	4291.0	9916.0
31121182090000	-78.44470	42.5496	28.9	1043.0	19.1	41.7	57.3	78.4	99.0	5262.0	11283.0
31121182100000	-78.33590	42.5564	32.4	1140.6	20.5	45.9	62.1	85.1	107.2	4972.0	10897.0
31121182100000	-78.33590	42.5564	31.8	1140.0	20.0	44.8	60.8	83.3	105.1	5053.0	11006.0
31121182110000	-78.31570	42.5512	37.8	1174.7	24.5	55.0	72.5	99.4	124.9	4298.0	9925.0
31121182300000	-78.37955	42.8007	20.7	735.8	15.9	30.4	45.9	62.0	78.2	5829.0	11995.0
31121182300000	-78.37930	42.8008	20.7	736.1	15.9	35.5	49.3	67.9	86.3	5900.0	12080.0
31121182630000	-78.02660	42.7854	23.4	807.1	17.8	39.9	54.2	74.7	94.6	5601.0	11716.0

31121184060000	-78.08520	42.6546	21.8	735.2	17.4	38.6	52.7	72.6	92.0	5699.0	11837.0
31121184070000	-78.08445	42.6525	21.8	740.7	17.3	33.5	50.1	67.5	84.9	5486.0	11571.0
31121184070000	-78.08420	42.6526	21.8	740.7	17.3	38.5	52.6	72.5	91.9	5698.0	11836.0
31121184080000	-78.08710	42.6527	22.1	754.7	17.3	38.6	52.7	72.6	92.0	5698.0	11836.0
31121185480000	-78.44980	42.5654	32.6	1031.8	22.9	49.1	66.6	91.0	114.4	4526.0	10265.0
31121185550000	-78.35647	42.5547	34.4	1123.8	22.6	44.5	65.0	87.5	109.2	4218.0	9804.0
31121185550000	-78.35620	42.5547	34.4	1123.8	22.6	50.6	67.3	92.3	116.2	4647.0	10441.0
31121186820000	-78.38180	42.5547	29.1	1101.9	18.3	40.6	56.0	76.7	96.9	5369.0	11422.0
31121188330000	-78.38090	42.5485	34.8	1114.4	23.2	50.7	67.8	92.9	116.8	4539.0	10284.0
31121189340000	-78.19421	42.8053	24.1	805.3	18.7	35.8	52.6	71.1	89.4	5276.0	11302.0
31121189340000	-78.19400	42.8053	24.1	805.3	18.7	41.1	55.7	76.6	96.9	5467.0	11548.0
31121189790000	-78.33540	42.5509	36.9	1147.6	24.3	54.5	71.8	98.5	123.8	4354.0	10011.0
31121189920000	-78.43120	42.5296	32.6	1072.6	22.0	48.2	64.8	88.8	111.8	4762.0	10604.0
31121190070000	-78.40154	42.7410	22.3	826.0	16.1	30.8	46.7	62.9	79.2	5758.0	11910.0
31121190070000	-78.40130	42.7410	22.3	826.0	16.1	36.2	50.2	69.1	87.7	5830.0	11997.0
31121190640000	-78.08769	42.6513	22.1	760.2	17.3	33.5	50.0	67.5	84.8	5491.0	11578.0
31121190640000	-78.08740	42.6514	22.1	760.2	17.3	38.6	52.7	72.6	92.0	5698.0	11836.0
31121191460000	-78.41400	42.5798	33.7	1071.1	23.1	51.5	68.2	93.5	117.7	4616.0	10396.0
31121191640000	-78.36210	42.5379	39.5	1177.1	25.9	58.1	76.1	104.3	130.9	4085.0	9598.0
31121199370000	-78.18894	42.6978	52.5	1723.6	25.2	54.8	76.0	103.2	128.9	3693.0	8962.0
31121199370000	-78.18890	42.6978	52.5	1723.6	25.2	56.5	77.0	104.9	131.3	3743.0	9044.0
31121199380000	-78.20055	42.7325	29.8	952.2	21.9	43.0	61.8	83.6	104.6	4540.0	10285.0
31121201770000	-78.43860	42.5307	32.4	1059.8	22.1	49.1	65.5	89.8	113.0	4766.0	10610.0
31121201790000	-78.45710	42.5211	32.1	1075.0	21.5	48.1	64.3	88.2	111.1	4866.0	10750.0
31121202150000	-78.42980	42.5239	34.3	1114.7	22.7	50.6	67.3	92.3	116.1	4637.0	10426.0
31121202160000	-78.45040	42.5347	31.8	1013.5	22.5	50.5	66.6	91.5	115.3	4755.0	10594.0
31121207430000	-78.44020	42.5236	27.2	1084.5	16.8	37.7	52.5	71.9	91.0	5620.0	11740.0
31121207460000	-78.46150	42.5376	30.7	1012.6	21.4	48.0	63.9	87.7	110.6	4922.0	10827.0
31121207970000	-78.35980	42.8562	17.6	603.8	14.2	31.5	44.8	61.8	78.8	6147.0	12370.0
31121208490000	-78.37250	42.8056	22.3	735.8	18.1	40.6	54.8	75.5	95.7	5600.0	11715.0
31121208650000	-78.45100	42.5310	33.2	1030.5	23.4	52.6	69.1	94.8	119.3	4599.0	10372.0
31121217560000	-78.35130	42.8146	18.6	707.8	13.5	30.3	43.6	60.1	76.6	6200.0	12431.0
31121218400000	-78.11013	42.8172	20.4	792.5	14.4	27.8	42.6	57.6	72.8	6102.0	12318.0
31121218400000	-78.11010	42.8172	30.7	1609.7	13.5	30.5	45.1	61.3	77.6	6068.0	12279.0
31121218400000	-78.11010	42.8172	48.8	1591.1	25.0	56.6	76.0	103.8	130.1	3907.0	9313.0

31121218530000	-78.34030	42.8130	18.8	725.4	13.6	30.4	43.7	60.3	76.8	6193.0	12422.0
31121219000000	-78.05465	42.8308	45.0	1548.1	23.3	52.5	71.1	97.1	121.7	4225.0	9814.0
31121219000000	-78.05470	42.8308	48.2	1850.8	21.2	48.4	66.8	91.0	114.1	4481.0	10199.0
31121219030000	-78.08510	42.6801	21.7	730.0	17.4	37.6	51.8	71.3	90.4	5695.0	11833.0
31121219070000	-78.11647	42.8179	49.3	1637.7	24.6	55.5	75.1	102.5	128.4	3929.0	9349.0
31121219070000	-78.11650	42.8179	49.3	1635.6	24.7	55.7	75.2	102.7	128.6	3941.0	9368.0
31121219080000	-78.10583	42.8199	47.5	1569.1	24.5	55.0	74.4	101.5	127.2	3971.0	9417.0
31121219080000	-78.10580	42.8199	47.4	1564.5	24.6	54.8	74.3	101.4	127.0	3958.0	9395.0
31121219450000	-78.10453	42.8161	48.5	1606.9	24.6	55.3	74.7	102.0	127.8	3957.0	9394.0
31121219450000	-78.10450	42.8161	48.4	1602.3	24.6	55.2	74.7	102.0	127.7	3937.0	9362.0
31121219480000	-78.07920	42.6801	23.5	743.1	19.6	42.0	56.9	78.2	98.8	5349.0	11396.0
31121219620000	-78.04849	42.8315	48.6	1566.7	25.3	57.1	76.5	104.5	131.0	3893.0	9290.0
31121219620000	-78.04850	42.8315	48.5	1562.1	25.3	57.1	76.6	104.6	131.1	3883.0	9275.0
31121219640000	-78.06827	42.8214	48.9	1600.2	25.0	56.5	75.9	103.6	129.9	3921.0	9336.0
31121219640000	-78.06830	42.8214	48.9	1595.6	25.0	56.0	75.8	103.4	129.5	3871.0	9255.0
31121220420000	-78.09930	42.8220	48.2	1584.0	24.8	55.7	75.1	102.6	128.5	3937.0	9362.0
31121220420000	-78.09930	42.8220	48.2	1579.5	24.8	55.4	75.1	102.4	128.3	3914.0	9324.0
31121220460000	-78.09874	42.8177	46.6	1539.2	24.4	54.5	73.8	100.8	126.3	4002.0	9465.0
31121220460000	-78.09870	42.8177	46.6	1539.2	24.4	54.5	73.8	100.7	126.2	4001.0	9465.0
31121220530000	-78.11311	42.8139	51.3	1613.6	26.2	59.0	79.2	108.1	135.3	3678.0	8936.0
31121220530000	-78.11310	42.8139	51.3	1609.0	26.3	59.3	79.4	108.4	135.8	3699.0	8972.0
31121220900000	-78.44160	42.7231	25.9	754.4	22.5	50.4	65.4	90.1	113.7	5004.0	10939.0
31121220930000	-78.24750	42.5648	37.2	1215.9	23.2	52.0	69.3	95.0	119.4	4469.0	10181.0
31121222880000	-78.08340	42.6814	24.6	742.2	21.1	45.7	60.7	83.5	105.5	5175.0	11170.0
31121222890000	-78.08740	42.6814	22.1	609.6	21.5	46.1	60.9	83.9	106.1	5179.0	11175.0
31121222900000	-78.07980	42.6814	23.2	756.2	18.8	40.4	55.0	75.7	95.7	5484.0	11570.0
31121222900000	-78.07980	42.6814	24.2	752.9	20.3	43.6	58.5	80.5	101.7	5274.0	11299.0
31121222910000	-78.08160	42.6814	22.6	754.4	18.0	39.0	53.4	73.5	93.0	5591.0	11703.0
31121222910000	-78.08160	42.6814	23.1	751.3	18.8	40.5	55.1	75.8	96.0	5486.0	11572.0
31121225200000	-78.43856	42.5536	60.5	1917.8	26.8	57.8	81.2	110.0	137.1	3260.0	8208.0
31121225200000	-78.43860	42.5536	60.4	1913.2	26.9	61.2	82.7	112.8	140.9	3425.0	8501.0
31121226550000	-78.45845	42.5771	48.0	1835.2	21.3	45.7	65.7	88.8	111.0	4317.0	9954.0
31121226550000	-78.45850	42.5771	48.0	1832.8	21.3	47.7	66.7	90.6	113.5	4384.0	10055.0
31121227290000	-78.08740	42.6827	21.4	748.6	16.6	36.9	50.9	70.1	89.0	5798.0	11958.0
31121227300000	-78.07860	42.6827	22.3	812.6	16.4	36.8	50.9	70.0	88.8	5792.0	11951.0

31121233890000	-78.44392	42.5648	79.0	1885.8	37.1	79.9	109.2	148.4	184.5	1945.0	5731.0
31121233890000	-78.44390	42.5648	79.0	1885.8	37.1	83.3	110.7	151.1	188.1	2063.0	5939.0
31121233900000	-78.09130	42.6269	37.8	842.5	34.2	75.4	93.5	128.8	161.4	3426.0	8503.0
31121240510000	-78.03100	42.8062	19.7	782.1	13.7	30.6	44.1	60.7	77.3	6172.0	12398.0
31121241510000	-78.09088	42.6245	21.1	845.5	14.4	27.5	42.9	57.5	72.5	6093.0	12308.0
31121241510000	-78.09090	42.6245	21.1	842.5	14.4	31.1	45.0	61.7	78.5	6072.0	12283.0
31121241520000	-78.09100	42.6232	28.4	846.1	22.9	49.8	65.6	90.2	113.7	4824.0	10692.0
31121682600000	-78.45945	42.8157	17.2	614.5	13.3	25.6	39.8	53.8	68.2	6309.0	12555.0
31121682600000	-78.45920	42.8158	17.3	614.4	13.6	30.4	43.6	60.1	76.7	6213.0	12446.0
31121682770000	-78.45810	42.8137	17.1	610.5	13.3	25.5	39.7	53.7	68.1	6314.0	12560.0
31121682820000	-78.46841	42.8034	19.3	625.8	16.4	31.7	47.2	63.9	80.6	5739.0	11886.0
31121682820000	-78.46820	42.8034	19.3	625.8	16.4	36.8	50.4	69.6	88.4	5872.0	12047.0
31121682830000	-78.45490	42.8155	17.6	605.8	14.2	31.7	44.9	62.0	79.1	6145.0	12368.0
31121682840000	-78.46207	42.8176	15.8	600.8	11.4	21.9	35.3	47.7	60.6	6584.0	12885.0
31121683050000	-78.42383	42.8245	31.6	613.0	36.8	70.8	94.3	128.5	160.3	2637.0	7021.0
31121683050000	-78.42360	42.8245	31.6	613.0	36.8	82.6	98.9	136.7	171.6	3563.0	8742.0
31123006280000	-77.09100	42.4957	23.8	624.5	23.7	41.6	66.2	87.3	107.8	3906.0	9312.0
31123006280000	-77.09100	42.4957	23.9	630.6	23.6	43.2	60.6	82.5	103.6	4766.0	10609.0
31123006330000	-77.06817	42.4921	23.7	668.7	22.0	38.6	61.9	81.6	100.8	4272.0	9886.0
31123006330000	-77.06820	42.4921	23.7	668.7	22.0	43.9	59.8	81.9	103.2	5103.0	11073.0
31123006370000	-77.02080	42.4855	30.2	630.3	33.6	69.6	86.8	119.4	149.7	3838.0	9201.0
31123010960000	-77.08729	42.4853	22.8	621.2	22.3	39.0	62.7	82.5	101.9	4202.0	9780.0
31123010960000	-77.08730	42.4853	22.8	621.2	22.3	48.5	63.1	87.0	109.9	5232.0	11245.0
31123029620000	-77.08820	42.4892	24.3	626.7	24.4	45.9	63.2	86.2	108.3	4683.0	10492.0
31123047960000	-77.02190	42.6838	36.2	928.1	29.3	61.0	79.8	109.1	136.6	3898.0	9299.0
31123154060000	-77.07440	42.7338	32.0	867.8	26.5	55.2	72.8	99.6	125.0	4330.0	9974.0
31123154450000	-77.18460	42.5833	39.1	1191.2	25.3	51.6	71.4	96.9	121.1	4146.0	9692.0
31123175400000	-77.01610	42.6053	36.8	1141.5	24.4	50.6	69.4	94.4	118.2	4348.0	10002.0
31123194030000	-77.03070	42.5608	39.8	1286.0	23.9	48.9	68.6	93.0	116.2	4280.0	9898.0
31123205390000	-77.04920	42.6997	26.1	924.2	18.6	38.5	54.3	74.1	93.5	5425.0	11494.0
31123205440000	-77.00060	42.7201	28.6	943.1	20.8	43.3	59.8	81.7	102.8	5071.0	11030.0
31123205460000	-77.01460	42.7473	29.4	915.6	22.2	46.3	63.0	86.1	108.3	4882.0	10772.0
31123205710000	-77.06190	42.7010	32.2	1041.5	22.3	46.3	63.8	86.9	109.2	4768.0	10613.0
31123227430000	-76.97232	42.5074	66.3	2207.1	26.0	51.3	80.5	106.5	131.2	3095.0	7907.0
31123227430000	-76.97230	42.5074	66.3	2204.6	26.0	54.2	80.1	107.3	132.9	3301.0	8282.0

31123227460000	-77.06090	42.5173	74.4	2407.3	27.2	56.9	84.8	113.4	140.3	3003.0	7734.0
31123227500000	-77.08729	42.4933	88.1	2302.8	34.4	68.6	104.0	138.5	170.5	2072.0	5741.0
31123227500000	-77.08730	42.4933	88.1	2299.7	34.4	78.8	105.1	142.5	177.1	2609.0	6963.0
31123227520000	-77.08241	42.5285	78.1	2299.1	30.1	60.3	91.5	121.8	150.3	2453.0	6889.0
31123227520000	-77.08240	42.5285	73.1	2299.1	27.9	58.4	86.1	115.3	142.7	2958.0	7650.0
31123227520000	-77.08240	42.5285	64.9	2175.7	25.7	52.8	78.9	105.4	130.5	3340.0	8351.0
31123227570000	-77.24628	42.6457	66.4	2221.1	25.8	53.6	79.8	106.6	132.1	3301.0	8283.0
31123227570000	-77.24630	42.6457	66.4	2218.6	25.9	55.2	80.2	107.7	133.7	3399.0	8456.0
31123227570100	-77.24628	42.6457	64.9	2178.1	25.7	52.8	78.9	105.3	130.5	3343.0	8357.0
31123227570100	-77.24630	42.6457	64.9	2175.7	25.7	54.7	79.5	106.7	132.5	3434.0	8519.0
31123227640000	-77.27854	42.6320	61.0	1973.0	26.3	52.5	79.2	105.6	130.7	3266.0	8219.0
31123227640000	-77.27850	42.6320	61.2	2001.3	26.1	54.9	79.4	106.7	132.5	3440.0	8528.0
31123227640100	-77.27854	42.6320	56.3	1832.5	25.8	51.0	77.3	103.0	127.4	3371.0	8406.0
31123227640100	-77.27850	42.6320	56.7	1868.4	25.5	52.6	76.5	102.8	127.7	3577.0	8765.0
31123227640200	-77.27854	42.6320	57.2	1871.8	25.8	51.1	77.4	103.1	127.5	3371.0	8407.0
31123227640200	-77.27850	42.6320	57.5	1898.0	25.6	53.0	77.0	103.5	128.6	3558.0	8733.0
31123227730000	-77.08167	42.5241	73.8	2315.9	28.0	56.2	85.8	114.1	140.7	2855.0	7456.0
31123227730000	-77.08170	42.5241	73.8	2313.4	28.0	58.6	86.6	115.8	143.4	2935.0	7605.0
31123227730100	-77.08167	42.5241	75.6	2331.7	28.5	57.5	87.5	116.5	143.7	2718.0	7283.0
31123227730100	-77.08170	42.5241	74.0	2342.7	27.7	58.3	86.0	115.2	142.5	2966.0	7665.0
31123227740000	-77.08260	42.5308	65.4	2164.4	26.1	52.0	79.9	106.1	131.0	3185.0	8073.0
31123227740000	-77.08260	42.5308	65.4	2161.3	26.1	53.7	79.9	106.8	132.3	3290.0	8262.0
31123227750000	-77.15190	42.6141	79.1	2080.6	33.7	71.6	101.0	136.0	168.4	2411.0	6556.0
31123227750100	-77.15186	42.6141	55.0	1755.3	26.2	51.3	78.0	103.8	128.3	3302.0	8284.0
31123227750100	-77.15190	42.6141	55.8	1840.7	25.4	52.2	76.1	102.1	126.8	3600.0	8805.0
31123227760000	-77.07295	42.5514	52.8	2188.2	20.0	40.1	63.0	83.3	103.2	4411.0	10095.0
31123227760000	-77.07300	42.5514	52.8	2188.2	20.0	41.7	63.4	84.6	105.1	4459.0	10167.0
31123227900000	-77.06218	42.5820	72.8	2260.7	28.2	57.6	86.4	115.2	142.4	2881.0	7501.0
31123227900000	-77.06220	42.5820	72.8	2258.3	28.2	59.2	86.9	116.4	144.2	2933.0	7602.0
31123227900100	-77.06218	42.5820	67.9	2132.1	27.6	55.3	83.6	111.4	137.6	3002.0	7732.0
31123227900100	-77.06220	42.5820	67.8	2116.8	27.8	56.9	84.2	112.6	139.4	3045.0	7813.0
31123227910000	-77.05790	42.5764	75.9	2159.8	31.0	62.1	93.0	124.1	153.2	2435.0	6802.0
31123227910000	-77.05790	42.5764	75.9	2157.4	31.0	64.6	93.8	125.9	155.8	2605.0	6956.0
31123227910100	-77.05790	42.5764	65.9	2090.9	27.2	54.3	82.3	109.6	135.4	3066.0	7854.0
31123227910100	-77.05790	42.5764	66.5	2169.6	26.5	55.4	81.5	109.1	135.2	3237.0	8167.0

31123227950000	-77.04656	42.5345	76.5	2235.1	30.2	60.5	91.5	121.9	150.4	2457.0	6895.0
31123227950000	-77.04660	42.5345	76.4	2228.1	30.3	67.6	93.0	125.8	156.3	2965.0	7663.0
31123227950100	-77.04656	42.5345	73.4	2262.2	28.5	57.1	86.8	115.5	142.5	2811.0	7366.0
31123227950100	-77.04660	42.5345	73.3	2257.0	28.5	63.8	88.3	119.3	148.4	3196.0	8092.0
31123227960000	-77.03983	42.5481	79.6	2280.5	31.0	62.5	94.0	125.3	154.6	2359.0	6698.0
31123227960000	-77.03983	42.5481	70.0	2122.0	28.8	57.4	87.0	115.8	143.0	2795.0	7334.0
31123227960000	-77.03980	42.5481	79.7	2294.2	30.8	64.9	94.5	126.7	156.7	2552.0	6902.0
31123227960000	-77.03980	42.5481	70.0	2119.6	28.8	59.1	87.0	116.5	144.1	2895.0	7530.0
31123227960100	-77.03983	42.5481	78.8	2321.7	30.1	61.1	91.9	122.6	151.3	2447.0	6911.0
31123227960100	-77.03980	42.5481	78.8	2319.2	30.1	63.5	92.6	124.2	153.6	2666.0	7079.0
31123227970000	-77.16598	42.5835	63.2	2099.2	25.8	51.4	78.6	104.6	129.2	3275.0	8236.0
31123227970000	-77.16600	42.5835	63.1	2093.4	25.9	54.1	79.2	106.2	131.8	3402.0	8461.0
31123228280000	-77.10425	42.6724	64.8	2025.1	27.5	56.4	82.9	111.0	137.6	3139.0	7988.0
31123228280000	-77.10430	42.6724	64.8	2025.1	27.5	57.3	83.3	111.8	138.7	3161.0	8029.0
31123228400000	-77.16767	42.5980	73.7	1847.4	35.0	68.8	102.4	136.8	168.6	2081.0	5926.0
31123228400000	-77.16770	42.5980	75.4	2039.1	32.6	68.6	97.4	131.1	162.4	2531.0	6804.0
31123228500000	-77.31667	42.6180	65.5	2175.1	26.0	52.4	79.3	105.6	130.6	3270.0	8226.0
31123228500000	-77.31670	42.6180	65.4	2172.6	26.0	54.1	79.9	107.0	132.6	3312.0	8302.0
31123228580000	-77.27706	42.6391	75.5	1859.9	35.7	70.9	104.2	139.3	171.9	2028.0	5874.0
31123228580000	-77.27710	42.6391	75.9	1904.4	35.1	73.3	103.1	138.8	172.0	2313.0	6347.0
31123228580100	-77.27715	42.6379	78.5	1832.8	37.9	75.1	109.9	147.1	181.4	1904.0	5432.0
31123228580100	-77.27720	42.6379	79.2	1902.0	36.9	77.0	107.9	145.4	179.9	2088.0	5977.0
31123229030000	-77.13318	42.7050	46.8	1770.0	21.4	42.8	64.4	86.1	107.1	4360.0	10019.0
31123229030000	-77.13320	42.7050	46.8	1769.4	21.4	44.5	65.2	87.6	109.3	4407.0	10089.0
31123229030100	-77.13318	42.7050	53.9	1753.5	25.6	51.2	75.5	101.1	125.5	3582.0	8773.0
31123229030100	-77.13320	42.7050	54.1	1772.4	25.4	53.0	76.0	102.3	127.3	3674.0	8930.0
31123229390000	-77.28720	42.7464	51.7	1700.8	25.1	53.6	75.2	101.7	126.8	3868.0	9250.0
31123229390100	-77.28717	42.7464	57.4	1616.0	30.0	59.5	86.4	115.9	143.6	2943.0	7621.0
31123229390100	-77.28720	42.7464	58.1	1679.5	29.2	62.3	86.0	116.4	144.8	3255.0	8200.0
31123229390200	-77.28717	42.7464	54.4	1645.9	27.6	55.0	80.4	107.8	133.6	3277.0	8239.0
31123229390200	-77.28720	42.7464	54.9	1689.2	27.2	58.0	80.6	109.0	135.8	3549.0	8717.0
31123229400000	-77.11131	42.6276	61.2	1940.4	26.9	53.7	80.8	107.7	133.2	3177.0	8058.0
31123229400000	-77.11130	42.6276	61.3	1954.4	26.8	55.8	80.8	108.5	134.7	3326.0	8326.0
31123229410000	-76.95649	42.5240	72.2	2188.8	28.9	57.0	88.7	117.6	144.7	2548.0	7031.0
31123229410000	-76.95650	42.5240	72.2	2186.3	28.9	60.8	88.4	118.6	146.9	2895.0	7529.0

31123229410100	-76.95649	42.5240	79.2	1844.0	38.1	72.0	110.8	147.2	180.9	1904.0	5026.0
31123229410100	-76.95650	42.5240	81.5	2098.2	34.6	72.0	103.2	138.7	171.5	2084.0	6194.0
31123231360000	-77.02219	42.5864	66.7	1758.7	32.8	63.7	95.9	127.8	157.5	2276.0	6430.0
31123231360000	-77.02220	42.5864	70.0	2119.6	28.8	61.3	87.7	118.0	146.4	3006.0	7740.0
31123260770000	-77.05640	42.5384	33.7	755.9	32.7	57.4	84.3	112.8	139.6	2841.0	7424.0
31123260770100	-77.05636	42.5384	84.5	2199.7	34.3	68.7	102.9	137.2	169.2	2093.0	5901.0
31123260770100	-77.05640	42.5384	88.6	2821.8	28.2	63.1	90.5	121.6	150.8	2937.0	7610.0
31123260810000	-77.04760	42.5295	53.1	1149.7	38.3	76.6	102.0	138.4	172.0	2543.0	6829.0
31123260950000	-77.06400	42.5537	46.1	2057.4	18.1	37.4	57.3	76.5	95.3	4955.0	10873.0
31123261630000	-77.02910	42.5715	44.4	1214.6	29.2	59.8	81.2	110.2	137.5	3571.0	8756.0
37003200460000	-79.73650	40.4002	85.6	2409.1	31.8	82.7	103.8	163.2	208.5	2285.1	4066.7
37003206520000	-79.79986	40.5978	30.5	955.6	22.5	52.2	74.7	102.6	130.3	3243.5	7389.8
37003208480000	-79.75557	40.4656	37.5	1236.0	23.1	55.8	75.5	111.2	141.4	3152.4	6599.8
37003208890000	-79.89525	40.2864	22.4	778.5	17.2	38.6	54.9	80.0	100.8	4501.0	9883.5
37003209510000	-79.79670	40.5343	25.6	882.1	18.8	43.2	63.4	86.1	108.6	4114.3	9271.5
37003209730000	-79.83621	40.5433	32.4	975.1	24.0	56.4	80.0	110.6	140.3	3001.5	6755.3
37003209800000	-79.90020	40.1972	85.2	2289.7	33.3	87.8	108.4	176.7	224.8	2138.3	3745.4
37003210700000	-79.72774	40.4833	20.3	747.1	15.1	33.9	50.7	69.4	87.4	5356.2	11363.0
37003211550000	-80.24926	40.4029	20.5	732.4	15.7	35.1	53.2	71.6	89.3	5149.8	11122.9
37003211640000	-79.79111	40.3976	32.6	1160.1	20.4	48.8	67.9	97.6	124.0	3479.1	7940.1
37003211800000	-79.80423	40.4098	27.9	1056.1	17.9	41.9	59.2	85.0	107.6	4173.1	9351.0
37003211900000	-79.96371	40.3182	34.7	1194.8	21.6	50.9	69.9	103.5	131.1	3364.1	7187.8
37003212010000	-79.77412	40.3736	30.4	1070.2	20.0	46.7	65.0	94.0	119.3	3637.0	8255.6
37003212230000	-79.71373	40.5274	34.6	1316.7	19.4	48.7	68.6	96.5	122.2	3464.6	8325.1
37003212280000	-79.70974	40.5211	35.3	1280.5	20.5	51.2	71.8	101.0	127.9	3294.0	7846.5
37003212290000	-79.87885	40.2401	35.3	1280.5	20.5	48.4	66.7	98.6	124.8	3609.0	7555.3
37003212300000	-79.86665	40.2521	37.6	1337.2	21.4	51.1	69.7	103.7	131.4	3548.2	7041.2
37003212320000	-79.72578	40.5332	33.9	1261.6	19.8	49.2	69.4	97.4	123.2	3435.3	8232.5
37003212360000	-79.72725	40.5230	35.2	1411.2	18.5	47.0	66.0	93.4	118.2	3652.0	8684.3
37003212380000	-79.70873	40.5257	34.4	1299.7	19.5	48.9	68.9	96.9	122.6	3452.9	8297.0
37003212390000	-79.71125	40.5113	35.0	1308.2	19.9	49.7	69.7	98.0	124.4	3390.7	8098.2
37003212400000	-79.70977	40.5141	37.9	1411.2	20.5	52.0	72.1	102.4	130.0	3234.8	7708.7
37003212420000	-79.74252	40.4223	41.5	1379.8	23.5	58.4	78.0	116.1	147.9	3098.7	6117.8
37003212490000	-79.73855	40.5320	36.8	1224.1	22.7	56.0	78.2	109.7	139.3	3009.8	6938.2
37003212500000	-79.73804	40.5184	31.3	1226.5	18.2	44.7	64.1	89.0	112.5	3959.7	9093.9

37003212510000	-79.70762	40.4951	37.0	1377.7	20.3	51.0	71.0	101.0	128.3	3310.1	7775.1
37003212530000	-79.70626	40.5150	33.0	1230.8	19.5	48.1	68.2	95.1	120.5	3535.0	8400.5
37003212540000	-79.72380	40.5359	33.8	1252.7	19.8	49.2	69.5	97.4	123.3	3432.8	8217.0
37003212570000	-79.70941	40.4977	34.2	1281.1	19.6	48.6	68.5	96.4	122.3	3470.8	8229.9
37003212600000	-79.78518	40.3966	34.3	1388.4	18.3	45.5	63.1	91.7	116.3	3720.2	8749.8
37003212610000	-79.78231	40.3997	46.6	1391.1	27.0	67.4	89.5	132.5	169.2	2714.6	5210.3
37003212620000	-79.77741	40.3970	39.9	1388.7	22.2	55.5	75.2	110.3	140.4	3086.0	6810.8
37003212660000	-79.71344	40.5156	34.6	1226.8	20.9	51.5	72.5	101.4	128.6	3281.6	7740.3
37003212670000	-79.72858	40.5258	39.2	1349.7	22.3	56.2	77.7	110.2	140.0	2998.1	6952.7
37003212850000	-79.71531	40.5132	36.4	1237.5	22.1	54.6	76.4	107.2	136.2	3092.8	7156.1
37003212860000	-79.73359	40.5363	34.6	1224.7	20.9	51.4	72.4	101.3	128.5	3284.8	7735.0
37003212870000	-79.71621	40.5301	35.5	1256.1	21.1	52.4	73.5	103.2	130.9	3218.4	7595.1
37003212910000	-79.70428	40.5124	34.9	1255.5	20.7	51.2	71.9	100.8	127.9	3299.2	7794.5
37003212940000	-79.70407	40.5093	32.7	1252.7	18.9	46.8	66.4	92.7	117.4	3690.7	8661.4
37003212950000	-79.74965	40.5340	35.5	1254.6	21.1	52.3	73.4	102.9	130.6	3228.1	7588.1
37003212990000	-79.72380	40.5389	30.4	1158.9	18.5	45.1	64.8	89.8	113.4	3923.1	9009.2
37003213000000	-79.71245	40.5184	34.6	1224.7	20.9	51.5	72.5	101.4	128.6	3281.6	7735.9
37003213030000	-79.70331	40.5021	35.3	1283.8	20.5	50.8	71.2	100.3	127.3	3327.3	7821.5
37003213080000	-79.77488	40.3912	43.4	1402.1	24.5	61.2	81.8	121.1	154.5	2960.8	5797.5
37003213110000	-79.70484	40.5060	31.2	1219.5	18.2	44.6	63.9	88.8	112.4	3955.2	9086.5
37003213120000	-79.72506	40.5203	32.3	1219.8	19.1	47.0	67.0	93.3	118.1	3679.0	8611.8
37003213130000	-79.73796	40.5282	32.9	1223.2	19.5	48.2	68.4	95.4	120.7	3541.2	8388.2
37003213140000	-79.77071	40.3901	36.9	1371.6	20.4	50.6	69.2	101.2	128.7	3339.0	7683.5
37003213160000	-79.85161	40.2926	34.8	1284.4	20.1	48.5	66.6	98.9	125.1	3501.8	7816.1
37003213170000	-79.71589	40.5199	33.0	1239.0	19.3	47.9	68.0	94.9	120.1	3585.5	8458.6
37003213180000	-79.82464	40.2878	32.7	1299.4	18.3	44.3	61.4	90.9	114.8	3833.3	8742.7
37003213220000	-79.77270	40.3840	38.6	1466.1	20.2	50.7	68.5	101.9	129.4	3324.8	7651.7
37003213250000	-79.74614	40.5252	34.9	1162.2	22.3	54.2	76.2	106.3	135.0	3118.6	7187.5
37003213270000	-79.74038	40.5131	30.3	1105.8	19.2	46.3	66.6	91.8	116.1	3770.6	8695.0
37003213290000	-79.74860	40.4995	31.2	1220.4	18.2	44.5	63.7	88.8	112.4	3952.6	9069.0
37003213340000	-79.72092	40.5148	36.5	1201.8	22.9	56.2	78.6	110.0	139.9	2998.6	6886.1
37003213350000	-79.70226	40.4929	32.1	1247.6	18.5	45.3	64.5	90.7	114.9	3812.4	8830.6
37003213390000	-79.70748	40.5003	34.8	1220.4	21.1	51.8	72.8	102.1	129.7	3262.2	7600.8
37003213410000	-79.72266	40.5172	34.5	1217.4	20.9	51.6	72.7	101.6	128.8	3275.8	7722.3
37003213420000	-79.74236	40.5203	30.0	1170.4	17.9	43.7	63.0	87.1	110.1	4061.5	9281.7

37003213440000	-79.71671	40.5172	34.9	1209.8	21.4	52.8	74.3	103.8	131.7	3199.8	7499.3
37003213450000	-79.75034	40.5207	30.6	1132.0	19.1	46.2	66.3	91.6	115.9	3778.5	8730.3
37003213460000	-79.75143	40.5023	34.4	1209.5	21.0	51.4	72.3	101.2	128.6	3292.3	7686.7
37003213470000	-79.70676	40.5030	34.5	1222.6	20.9	52.0	72.9	102.7	129.8	3235.6	7743.7
37003213480000	-79.72452	40.5131	37.0	1243.3	22.5	55.7	77.6	109.1	138.7	3025.1	6978.6
37003213510000	-79.74529	40.5279	33.6	1147.0	21.4	52.0	73.6	102.3	129.8	3251.0	7580.2
37003213520000	-79.74988	40.5310	33.4	1175.9	20.7	50.6	71.7	99.7	126.5	3338.7	7856.9
37003213530000	-79.75521	40.5038	34.0	1225.9	20.4	50.2	70.8	99.0	125.6	3368.0	7942.6
37003213570000	-79.72821	40.5310	26.7	1004.3	17.6	41.5	61.0	83.0	104.7	4300.3	9702.5
37003213630000	-79.73726	40.5145	31.7	1129.9	20.1	48.6	69.3	96.0	121.6	3488.4	8236.2
37003213650000	-79.75218	40.4989	34.2	1194.8	21.1	51.4	72.5	101.4	128.8	3289.7	7650.0
37003213660000	-79.75101	40.5054	33.2	1224.7	19.7	48.5	68.7	95.9	121.6	3483.4	8275.1
37003213680000	-79.74767	40.5025	32.9	1222.3	19.5	47.9	68.0	94.9	120.4	3532.1	8372.8
37003213690000	-79.74620	40.5125	29.6	1100.9	18.8	45.1	65.1	89.6	113.3	3919.7	8947.8
37003213700000	-79.74854	40.5164	30.3	1148.5	18.5	44.9	64.6	89.2	112.9	3932.8	9004.6
37003213710000	-79.74148	40.5176	32.8	1148.5	20.7	50.2	71.2	98.9	125.5	3365.6	7917.8
37003213730000	-79.73462	40.5021	33.0	1233.2	19.5	47.8	67.8	94.8	120.2	3537.2	8387.3
37003213760000	-79.73227	40.4876	32.9	1272.8	18.8	46.2	65.2	92.6	117.3	3667.8	8618.7
37003213830000	-79.73139	40.5315	31.2	1007.4	22.0	51.9	74.3	102.2	129.6	3260.9	7526.9
37003213840000	-79.72196	40.4980	32.5	1283.2	18.3	45.3	64.4	90.5	114.6	3831.4	8897.6
37003213850000	-79.73660	40.5390	24.5	1008.3	15.4	36.3	54.3	73.4	92.3	4999.3	10928.9
37003213860000	-79.74544	40.5079	31.7	1175.9	19.3	47.2	67.3	93.4	118.3	3656.1	8547.7
37003213880000	-79.73349	40.4772	31.3	1271.9	17.5	42.8	60.2	86.6	109.7	4079.3	9299.8
37003213910000	-79.73437	40.5464	33.0	1018.6	23.6	55.8	79.1	109.5	138.9	3031.3	6863.5
37003213920000	-79.75209	40.4925	32.0	1196.3	19.2	46.8	66.6	93.1	118.0	3631.2	8538.8
37003213930000	-79.75564	40.4900	31.3	1233.8	18.1	44.3	63.3	88.8	112.4	3952.3	9055.3
37003213950000	-79.75639	40.4937	33.8	1208.8	20.5	50.1	70.7	99.2	125.9	3379.0	7874.9
37003213970000	-79.76828	40.5060	34.1	1186.9	21.1	51.6	72.8	101.6	129.0	3273.7	7659.0
37003213980000	-79.73299	40.4744	31.2	1223.2	18.2	44.0	61.9	88.8	112.6	3941.6	9001.5
37003213990000	-79.72457	40.4854	37.4	1231.4	23.1	56.3	77.9	111.2	141.6	3034.6	6672.0
37003214000000	-79.72955	40.4973	32.9	1223.2	19.5	47.8	67.8	94.9	120.4	3539.2	8356.7
37003214010000	-79.72308	40.5111	29.5	1051.6	19.5	46.4	66.8	91.9	116.3	3750.0	8624.2
37003214020000	-79.75917	40.4884	40.5	1254.0	25.1	61.5	84.3	120.8	154.1	2938.4	5807.0
37003214030000	-79.71189	40.5008	32.6	1203.4	19.6	48.0	68.2	95.1	120.6	3525.0	8343.0
37003214040000	-79.71828	40.4892	35.9	1243.6	21.6	53.0	73.9	104.9	133.4	3187.0	7286.3

37003214050000	-79.76655	40.5092	28.8	1119.5	17.7	42.6	61.7	84.9	107.3	4187.1	9501.2
37003214060000	-79.72965	40.4758	36.1	1233.2	21.9	53.3	73.3	106.1	135.0	3187.0	7117.4
37003214070000	-79.73403	40.5093	33.1	1195.4	20.2	49.3	69.9	97.3	123.4	3423.4	8115.5
37003214080000	-79.76411	40.4994	34.5	1130.5	22.5	54.2	76.3	106.6	135.5	3115.6	7085.8
37003214090000	-79.71376	40.4872	36.8	1226.2	22.7	55.3	76.8	109.2	139.0	3076.6	6855.2
37003214100000	-79.74317	40.4855	37.9	1226.8	23.6	57.5	79.3	113.3	144.3	3028.4	6479.9
37003214110000	-79.73059	40.5083	34.3	1205.8	21.0	51.5	72.7	101.5	128.8	3277.9	7697.5
37003214120000	-79.75325	40.4951	35.5	1206.7	21.9	53.5	75.0	105.4	134.0	3163.4	7246.8
37003214130000	-79.73463	40.5174	32.3	1132.0	20.6	49.7	70.8	98.1	124.4	3394.6	8003.6
37003214140000	-79.71319	40.4931	33.8	1227.7	20.2	49.4	69.7	98.0	124.3	3427.4	8013.4
37003214190000	-79.72739	40.4836	35.8	1237.2	21.7	52.9	73.5	105.0	133.5	3191.4	7254.6
37003214260000	-79.73310	40.5058	35.8	1236.9	21.7	53.4	74.7	104.9	133.4	3161.6	7338.0
37003214340000	-79.78411	40.4078	30.3	1107.3	19.2	45.3	63.2	91.5	115.9	3754.5	8581.1
37003214440000	-79.81037	40.5167	29.5	1087.5	18.8	45.3	65.4	90.1	113.8	3909.5	8926.0
37003214500000	-79.76544	40.4020	25.7	973.8	17.2	39.5	56.9	80.4	101.7	4473.0	9921.5
37003214510000	-79.82817	40.5126	30.8	977.5	22.3	52.3	74.8	102.9	130.4	3237.2	7460.2
37003214520000	-79.82376	40.5140	32.4	1011.9	23.1	54.5	77.6	107.0	135.8	3102.0	7068.4
37003214550000	-79.81972	40.5260	33.6	1024.4	24.0	57.0	80.6	111.6	141.7	2961.7	6661.7
37003214560000	-79.75692	40.5211	30.6	1134.5	19.1	46.2	66.3	91.6	115.9	3781.1	8733.3
37003214630000	-79.76079	40.5276	27.3	1222.9	15.0	36.9	54.3	74.7	93.9	4896.7	10860.6
37003214870000	-79.80461	40.4931	32.7	1250.0	18.9	46.5	66.1	92.7	117.5	3668.6	8618.8
37003214920000	-79.80606	40.5298	30.3	1067.1	20.0	47.7	68.6	94.4	119.6	3611.3	8383.0
37003214930000	-79.81019	40.5345	28.5	1058.6	18.5	44.0	64.0	87.7	110.8	4022.6	9166.8
37003214950000	-79.81613	40.5290	28.3	1037.8	18.6	44.1	64.2	87.9	111.0	4012.9	9145.1
37003214960000	-79.81721	40.5329	30.5	1040.9	20.7	49.2	70.6	97.2	123.1	3446.2	8086.0
37003214970000	-79.79832	40.5006	32.9	1094.2	21.8	52.2	74.0	102.7	130.5	3244.2	7453.6
37003215060000	-79.79517	40.5049	29.8	1069.9	19.4	46.3	66.7	91.7	116.2	3755.8	8648.9
37003215070000	-79.79994	40.5041	31.5	1118.3	20.2	48.4	69.1	95.8	121.5	3495.5	8203.6
37003215080000	-79.82717	40.5013	31.6	1126.2	20.1	48.5	69.2	95.8	121.5	3490.8	8230.4
37003215100000	-79.80425	40.5094	30.2	1100.6	19.3	46.3	66.5	91.7	116.1	3766.8	8688.9
37003215120000	-79.72397	40.4882	34.8	1291.7	20.0	49.3	68.9	98.3	124.8	3429.2	7987.8
37003215130000	-79.73925	40.4913	34.3	1249.4	20.3	49.7	70.1	98.7	125.4	3400.9	7936.3
37003215140000	-79.82081	40.5403	32.0	1069.2	21.5	51.7	73.5	102.0	129.1	3263.2	7655.2
37003215190000	-79.82367	40.5074	29.1	1098.5	18.3	43.9	63.5	87.3	110.4	4045.7	9210.3
37003215200000	-79.81594	40.5056	28.1	1113.7	17.2	41.4	60.4	82.9	104.6	4310.3	9764.7

37003215210000	-79.80929	40.5090	28.1	1113.7	17.2	41.3	60.2	82.7	104.4	4323.7	9769.6
37003215360000	-79.81792	40.5083	31.4	1027.2	21.9	51.7	73.9	101.8	129.1	3272.6	7567.0
37003215390000	-79.78362	40.4999	32.4	1204.9	19.4	47.4	67.4	94.0	119.2	3577.7	8450.9
37003215400000	-79.78758	40.5028	31.9	1190.9	19.2	47.0	66.9	93.1	118.0	3659.9	8563.4
37003215410000	-79.84996	40.4713	30.9	1114.0	19.7	47.3	67.8	93.7	118.7	3626.3	8455.5
37003215450000	-79.85481	40.4717	28.6	1125.0	17.4	41.9	60.9	83.8	105.8	4255.3	9640.1
37003215460000	-79.78253	40.4846	31.1	1083.3	20.4	48.3	69.1	96.1	122.0	3501.2	8105.2
37003215480000	-79.84735	40.4911	29.1	974.1	20.6	48.3	69.7	95.5	120.8	3569.1	8228.1
37003215500000	-79.79346	40.4692	31.3	1144.2	19.5	46.5	65.2	93.5	118.6	3643.4	8398.2
37003215510000	-79.80105	40.4938	32.3	1175.9	19.8	48.1	68.4	95.3	120.9	3520.7	8284.8
37003215520000	-79.77067	40.4883	32.1	1207.9	19.2	46.6	66.4	93.0	117.9	3639.5	8543.5
37003215560000	-79.80820	40.4805	35.1	1266.8	20.6	50.6	70.5	100.6	127.8	3347.5	7728.1
37003215580000	-79.77634	40.5039	36.2	1219.8	22.3	54.6	76.4	107.2	136.4	3087.2	7097.0
37003215590000	-79.78110	40.5054	32.3	1136.0	20.5	49.5	70.4	97.8	124.2	3411.0	7996.2
37003215610000	-79.79940	40.4879	38.5	1100.9	26.8	63.9	88.6	124.7	159.2	2835.0	5586.1
37003215620000	-79.84618	40.4784	28.0	1022.3	18.6	44.1	64.2	87.7	110.8	4022.6	9134.0
37003215640000	-79.81927	40.5143	29.2	1108.3	18.2	44.0	63.7	87.8	110.8	4020.4	9212.1
37003215650000	-79.76294	40.4752	34.7	1236.0	20.8	50.6	70.0	101.0	128.3	3347.9	7639.9
37003215660000	-79.76177	40.4717	34.3	1251.2	20.3	49.3	68.0	98.8	125.5	3436.9	7868.0
37003215670000	-79.79670	40.4973	26.9	1058.3	16.9	40.0	58.7	80.3	101.4	4477.7	10025.3
37003215730000	-79.80722	40.4982	30.9	1113.1	19.7	47.2	67.6	93.7	118.7	3604.0	8435.6
37003215750000	-79.80262	40.4410	32.1	1161.9	19.9	47.6	66.2	95.5	121.2	3568.6	8174.4
37003215760000	-79.80891	40.4520	35.0	1258.2	20.7	50.3	68.8	100.7	128.0	3370.4	7652.3
37003215860000	-79.79165	40.5545	28.7	1032.1	19.1	45.2	65.6	89.8	113.6	3903.1	8868.6
37003215900000	-79.84358	40.4906	28.9	1041.8	19.1	45.3	65.7	90.0	113.8	3906.4	8876.5
37003215910000	-79.84097	40.4933	28.8	1040.3	19.1	45.3	65.7	90.0	113.8	3906.1	8875.0
37003215990000	-79.78830	40.4632	50.9	1680.4	24.9	64.3	83.6	127.6	162.6	2840.9	5455.0
37003216080000	-79.94856	40.2668	28.6	1104.3	17.7	40.7	57.7	84.0	105.9	4235.7	9332.9
37003216090000	-79.76716	40.4649	34.1	1231.1	20.4	49.3	67.8	99.0	125.7	3436.8	7817.1
37003216210000	-79.74348	40.6208	26.8	1055.5	16.9	40.3	59.2	80.9	101.9	4436.7	10010.1
37003216240000	-79.79418	40.4364	32.3	1175.3	19.8	47.3	65.5	95.4	121.0	3588.5	8170.0
37003216270000	-79.80316	40.4325	30.3	1069.2	20.0	46.8	65.7	94.0	119.3	3620.5	8278.6
37005012660000	-79.39949	40.8637	16.8	741.0	10.6	24.1	38.9	50.8	62.4	7199.6	13499.6
37005012760000	-79.38594	40.7689	30.3	1064.7	20.0	47.7	68.6	94.3	119.5	3609.4	8380.0
37005018670000	-79.50396	40.5446	34.6	1097.3	23.3	55.1	75.9	109.3	139.2	3101.5	6702.8

37005018690000	-79.43637	40.8483	33.8	1075.9	23.0	56.6	79.4	111.2	140.1	2967.5	7091.1
37005200340000	-79.48711	40.7441	29.3	1035.7	19.6	46.8	67.5	93.0	117.5	3750.0	8593.6
37005201540000	-79.46355	40.5948	32.2	1004.3	23.2	53.8	75.4	106.6	135.6	3162.3	6923.9
37005201550000	-79.36203	40.7693	30.0	1003.7	20.9	49.2	70.6	96.9	123.0	3445.5	8017.3
37005201640000	-79.49139	40.6322	29.8	1070.2	19.4	46.4	67.0	92.0	116.5	3758.7	8646.5
37005201650000	-79.36401	40.7429	34.9	1078.7	24.0	57.4	80.8	112.2	142.7	2960.0	6585.2
37005201960000	-79.42805	40.6156	32.1	1075.3	21.5	50.1	69.2	100.9	128.0	3386.0	7465.6
37005202020000	-79.49686	40.5860	32.6	1068.6	22.0	51.9	72.8	103.0	131.0	3271.8	7325.7
37005202220000	-79.47327	40.5831	30.9	1031.4	21.3	49.5	68.6	99.1	125.9	3434.4	7663.6
37005202500000	-79.33766	40.7223	30.9	1028.4	21.3	50.3	72.1	99.2	125.8	3358.3	7813.3
37005202620000	-79.37123	40.7478	36.9	1057.7	26.3	62.6	87.5	121.7	155.1	2875.2	5777.8
37005202630000	-79.45305	40.6218	26.1	1001.6	17.1	39.6	57.4	80.4	101.6	4474.1	9947.2
37005202700000	-79.45593	40.6285	29.2	1023.8	19.7	46.2	66.6	92.0	116.7	3725.3	8531.7
37005202720000	-79.36627	40.7642	35.7	1052.5	25.3	60.1	84.3	117.0	149.1	2913.7	6124.9
37005202770000	-79.36726	40.7528	38.0	1104.3	26.3	63.0	87.6	122.5	156.2	2861.6	5724.3
37005202780000	-79.49335	40.6242	33.9	1048.2	23.8	56.5	79.9	110.6	140.6	2994.0	6714.9
37005202910000	-79.44124	40.8377	30.8	1100.3	19.8	48.6	69.2	96.9	121.7	3624.3	8438.7
37005203060000	-79.30249	40.7070	31.0	956.8	23.0	52.8	73.4	105.2	133.8	3220.0	6997.0
37005203340000	-79.32466	40.6916	29.3	869.3	23.3	52.5	74.3	104.1	132.5	3225.5	7060.9
37005203490000	-79.32535	40.7007	18.0	861.1	10.5	23.7	38.3	50.5	62.7	7471.2	13771.2
37005203500000	-79.32556	40.6854	27.3	849.8	21.6	48.2	68.4	96.2	122.2	3529.5	7866.4
37005203670000	-79.56384	40.6783	21.6	994.3	12.6	29.6	45.8	61.2	76.4	6247.5	12497.6
37005203820000	-79.29383	40.7037	21.0	991.8	12.1	27.8	42.1	58.8	73.5	6593.5	12871.8
37005203910000	-79.31204	40.6946	21.1	917.8	13.1	29.9	45.0	62.4	78.3	6146.3	12369.1
37005204090000	-79.41154	40.7510	29.5	1028.7	20.0	47.6	68.5	94.6	119.4	3674.4	8449.8
37005204100000	-79.29780	40.7070	22.3	886.7	15.0	33.8	49.7	69.7	87.7	5347.0	11348.4
37005204140000	-79.39556	40.8251	23.8	952.2	15.5	36.6	54.7	74.6	93.1	4909.1	10870.6
37005204370000	-79.31005	40.6799	20.6	921.4	12.5	28.4	42.8	59.9	75.0	6460.2	12722.9
37005204390000	-79.40532	40.7532	33.7	1069.2	23.1	55.5	78.2	108.9	138.1	3046.5	6987.9
37005204400000	-79.40911	40.7545	30.2	1020.2	20.8	49.7	71.1	98.4	124.2	3459.1	8048.8
37005204410000	-79.57985	40.6244	22.8	1042.4	13.2	31.4	47.9	64.5	80.6	5887.0	12100.7
37005204460000	-79.35645	40.9043	30.8	1018.6	21.4	52.0	73.9	102.5	128.9	3344.6	7874.1
37005204540000	-79.53746	40.6150	35.4	1113.7	23.7	56.9	79.8	111.2	141.6	2988.6	6661.1
37005204590000	-79.40640	40.7567	32.3	1050.0	22.2	53.3	75.6	105.0	132.8	3173.0	7387.9
37005204600000	-79.30683	40.7656	29.9	1037.8	20.2	47.5	68.3	94.1	119.4	3576.5	8320.7

37005204630000	-79.48645	40.6733	25.6	928.1	17.9	41.5	61.0	82.8	104.6	4316.7	9648.4
37005204660000	-79.32163	40.7746	31.6	1143.0	19.8	47.7	68.1	94.5	119.9	3553.9	8361.9
37005204670000	-79.63113	40.6566	20.7	929.6	12.6	29.1	45.3	60.4	75.2	6330.5	12583.9
37005204810000	-79.41155	40.7576	29.7	1061.9	19.5	46.9	67.4	93.4	117.8	3761.8	8623.6
37005204980000	-79.36219	40.7143	29.4	1122.3	18.2	43.5	62.9	87.0	110.2	4060.7	9211.7
37005205210000	-79.36475	40.7848	29.4	980.5	20.8	48.9	70.5	96.6	122.3	3481.9	8106.1
37005205390000	-79.40790	40.8666	19.7	898.9	11.9	28.2	43.9	58.4	72.0	6470.8	12762.5
37005205650000	-79.35461	40.6862	37.9	1136.6	25.4	60.6	82.6	119.5	152.4	2985.3	5889.5
37005205860000	-79.65833	41.0078	27.9	931.5	20.3	47.4	68.6	94.1	118.8	3703.4	8428.7
37005206000000	-79.45502	40.6102	36.2	1051.0	25.9	60.6	83.1	119.4	152.4	2980.5	5874.7
37005206020000	-79.36110	40.6994	30.7	1055.2	20.6	48.4	69.3	96.3	122.2	3495.0	8057.7
37005206090000	-79.51351	40.6205	31.1	1102.9	20.0	48.1	68.8	95.0	120.4	3533.4	8314.2
37005206120000	-79.52666	40.6285	27.9	1032.7	18.3	43.4	63.3	86.5	109.3	4092.3	9285.8
37005206200000	-79.39970	40.6306	86.0	2311.6	33.3	87.3	108.6	172.5	220.3	2181.3	3706.2
37005206340000	-79.48354	40.5967	29.7	1061.0	19.5	45.8	65.1	91.7	116.4	3719.1	8558.2
37005206500000	-79.34235	40.7327	28.8	1121.7	17.7	42.7	61.9	85.1	107.5	4171.9	9497.2
37005206710000	-79.38158	40.6968	31.3	1059.8	21.1	49.6	70.6	98.5	125.2	3419.3	7808.0
37005206940000	-79.40784	40.7423	34.0	1097.3	22.8	55.2	77.7	108.4	137.4	3061.9	7052.7
37005207320000	-79.32988	40.6717	44.0	1264.6	27.6	67.4	89.7	132.6	169.3	2715.8	5208.0
37005207330000	-79.35787	40.7404	32.8	1088.8	21.9	52.3	74.1	102.8	130.6	3238.1	7450.3
37005207450000	-79.49471	40.6201	34.6	1098.8	23.3	55.9	78.7	109.4	139.1	3022.9	6834.6
37005207500000	-79.37734	40.6674	24.7	1023.5	15.4	35.6	51.6	73.4	92.5	5009.7	10890.2
37005207610000	-79.31908	40.7215	33.7	1068.6	23.1	54.9	77.5	107.6	136.8	3080.7	6955.8
37005207730000	-79.48066	40.5986	36.0	1098.5	24.6	58.3	81.0	114.8	146.3	3045.2	6249.3
37005207870000	-79.49090	40.5476	34.0	1033.3	24.2	56.2	76.8	112.0	142.5	3188.6	6371.2
37005207930000	-79.32107	40.7154	32.0	983.3	23.4	54.5	77.4	106.8	135.9	3105.3	6959.8
37005207990000	-79.24806	40.7886	30.2	1100.3	19.3	45.7	65.0	91.5	116.0	3740.7	8618.9
37005208010000	-79.36941	40.7295	43.8	1342.3	25.9	65.0	88.5	126.1	161.0	2786.8	5507.0
37005208110000	-79.33442	40.7160	32.2	1123.2	20.6	49.5	70.5	98.0	124.3	3415.0	7963.0
37005208290000	-79.24805	40.7814	33.2	1076.9	22.5	53.1	74.5	105.1	133.8	3187.9	7122.9
37005208330000	-79.47022	40.5997	32.8	1084.8	21.9	51.8	72.8	102.8	130.7	3274.7	7364.3
37005208520000	-79.49038	40.6025	34.3	1075.0	23.5	55.8	78.6	109.7	139.6	3050.2	6727.2
37005208650000	-79.46320	40.6234	34.5	1004.0	25.4	59.2	83.3	116.0	147.8	2993.9	6124.0
37005208680000	-79.33774	40.8204	30.9	1111.0	19.7	48.2	68.8	96.1	121.0	3645.1	8440.0
37005209020000	-79.49722	40.5921	32.0	1068.6	21.5	50.8	72.1	100.7	128.0	3336.5	7585.6

37005209040000	-79.33658	40.7580	33.8	1098.5	22.6	54.0	76.2	106.0	134.8	3138.5	7132.7
37005209180000	-79.51477	40.6270	35.0	1082.7	24.0	57.4	80.9	112.2	142.8	2957.9	6597.0
37005209200000	-79.47076	40.6076	32.5	1063.5	22.1	52.3	74.2	103.1	131.0	3242.0	7366.2
37005209310000	-79.33766	40.6831	36.5	1112.5	24.7	58.4	79.5	115.6	147.4	3090.4	6135.5
37005209490000	-79.36220	40.7418	34.6	1053.7	24.3	57.7	81.3	112.6	143.3	2949.2	6521.5
37005209570000	-79.45718	40.6061	35.8	1106.4	24.3	57.3	78.6	113.5	144.7	3108.1	6323.9
37005209670000	-79.44096	40.8099	32.8	1004.9	23.7	56.9	80.2	112.2	141.5	2966.2	6855.0
37005209740000	-79.29852	40.6974	34.5	1008.3	25.3	58.6	79.8	116.1	148.0	3079.8	6071.3
37005210160000	-79.36336	40.9090	24.6	1016.5	15.4	37.6	55.5	75.6	94.2	4823.5	10853.6
37005210310000	-79.32558	40.7363	41.4	1106.4	29.3	70.4	97.0	135.9	173.6	2587.4	5046.4
37005210370000	-79.46934	40.7376	32.6	1054.6	22.4	53.4	75.9	104.9	133.1	3167.9	7275.5
37005211150000	-79.50919	40.6411	31.2	1069.5	20.7	49.5	70.7	97.5	123.7	3420.0	8011.8
37005212010000	-79.34710	40.8848	131.8	4746.7	25.9	65.0	90.3	125.8	159.4	2642.9	5897.2
37005212600000	-79.51781	40.5498	32.8	1084.5	21.9	51.6	72.0	102.8	130.7	3289.1	7340.7
37005213100000	-79.38548	40.8204	31.3	975.4	22.9	54.2	77.0	107.0	135.2	3118.4	7219.1
37005213130000	-79.26625	40.7712	35.8	1146.4	23.4	56.4	79.0	110.6	140.8	3016.3	6715.5
37005213540000	-79.25000	40.9167	58.3	2051.3	24.0	62.6	82.7	123.8	156.4	2726.9	6152.1
37005213720000	-79.51549	40.6341	32.1	1074.7	21.5	51.3	73.2	101.1	128.2	3296.2	7662.0
37005213770000	-79.27311	40.7814	32.7	1120.8	21.1	50.9	72.3	100.2	127.2	3323.5	7750.7
37005214210000	-79.44736	40.7956	26.2	885.4	19.4	45.2	65.9	90.5	113.6	3879.2	8951.6
37005214330000	-79.25217	40.7756	36.3	1098.8	24.8	59.0	82.1	115.9	147.8	3031.1	6167.6
37005214340000	-79.25415	40.7807	35.5	1085.1	24.5	58.2	81.6	114.0	145.2	2972.2	6355.8
37005214530000	-79.41670	40.6667	77.0	2229.9	30.5	79.8	101.8	155.8	199.1	2339.2	4304.3
37005214690000	-79.26300	40.7796	33.0	1100.9	21.8	52.1	73.8	102.6	130.4	3251.4	7458.2
37005214780000	-79.25935	40.7555	33.3	1123.2	21.6	51.4	71.5	102.3	130.1	3303.6	7419.6
37005214790000	-79.25505	40.7574	35.4	1113.4	23.7	56.2	77.4	111.2	141.7	3083.8	6545.6
37005214920000	-79.25253	40.7874	34.5	1091.5	23.4	55.6	78.3	109.4	139.3	3063.2	6756.6
37005214940000	-79.28029	40.7784	32.9	1091.2	21.9	52.4	74.3	102.9	130.7	3231.6	7464.3
37005214950000	-79.27220	40.7763	38.3	1124.4	26.1	62.7	87.1	121.9	155.5	2876.2	5775.1
37005214960000	-79.26408	40.7778	29.8	1074.1	19.4	46.2	66.5	91.7	116.1	3755.5	8640.8
37005214970000	-79.26173	40.7736	33.8	1075.3	23.0	54.7	77.3	107.4	136.7	3088.6	6959.7
37005215040000	-79.26787	40.7748	35.3	1110.4	23.7	56.8	79.7	111.3	141.7	2996.2	6635.5
37005215050000	-79.27527	40.7748	30.5	1081.1	19.9	47.5	68.1	93.9	119.0	3604.0	8403.4
37005215060000	-79.25794	40.7882	34.5	1091.8	23.4	55.7	78.4	109.4	139.3	3054.4	6773.4
37005215070000	-79.26679	40.7840	33.1	1111.3	21.7	52.1	73.8	102.5	130.2	3245.7	7501.2

37005215080000	-79.26119	40.7846	33.1	1110.4	21.7	52.0	73.6	102.5	130.2	3257.5	7473.0
37005215090000	-79.26264	40.7877	28.0	1101.2	17.2	41.2	60.1	82.7	104.4	4324.1	9751.1
37005215250000	-79.22477	40.7979	31.9	1104.6	20.8	49.0	68.3	98.1	124.7	3463.0	7838.6
37005215370000	-79.42020	40.7395	30.9	1072.0	20.5	49.1	70.3	97.2	123.0	3466.1	8138.9
37005215650000	-79.24329	40.9941	33.6	1022.9	24.1	58.6	82.1	114.6	144.5	2875.9	6765.0
37005215740000	-79.53454	40.8958	35.8	978.7	27.4	67.1	91.7	128.1	161.5	2504.4	5877.2
37005216020000	-79.51963	40.6187	35.0	1082.0	24.0	57.4	80.8	112.1	142.6	2961.7	6593.6
37005216730000	-79.40752	40.9080	36.3	1100.3	24.8	62.2	85.2	119.7	150.8	2693.8	6553.7
37005218050000	-79.21691	40.7949	35.6	1219.8	21.8	52.7	71.9	105.3	133.9	3228.4	7158.5
37005218230000	-79.23660	41.0266	31.2	1009.2	22.0	53.9	75.8	105.0	132.0	3224.8	7707.7
37005218460000	-79.24356	40.7874	33.0	1063.8	22.6	53.1	74.2	105.4	134.1	3189.2	7075.5
37005218630000	-79.23361	40.7975	31.2	1010.4	22.0	51.1	71.3	101.7	129.4	3324.6	7392.6
37005218730000	-79.44356	40.7637	31.1	998.2	22.1	52.7	75.0	104.3	131.6	3202.0	7510.0
37005219910000	-79.24581	40.9611	30.6	1006.5	21.5	51.5	73.4	102.3	128.8	3327.7	7775.7
37005220680000	-79.25208	40.7821	35.6	1129.0	23.5	56.4	79.1	110.9	141.3	3023.9	6644.6
37005220910000	-79.33820	40.7002	32.7	1076.3	22.0	52.0	73.7	102.9	130.8	3257.8	7369.3
37005221140000	-79.59109	40.7059	29.1	975.4	20.6	48.9	70.3	97.2	122.4	3583.1	8229.1
37005222170000	-79.35874	40.6554	33.2	991.8	24.4	56.3	77.2	111.7	142.3	3141.6	6388.7
37005222440000	-79.27453	40.7291	32.9	1092.4	21.9	51.4	70.7	102.7	130.5	3298.2	7322.6
37005222560000	-79.33260	40.7050	33.4	1092.1	22.4	53.3	75.4	104.9	133.4	3179.5	7207.1
37005222650000	-79.35391	40.7796	32.5	1103.7	21.3	51.1	72.7	100.6	127.6	3311.9	7718.3
37005222660000	-79.35608	40.7845	33.0	1145.1	21.0	50.8	72.1	100.1	127.0	3326.8	7798.6
37005222730000	-79.37536	40.7510	36.3	1143.3	23.9	57.9	80.9	112.9	143.8	2942.0	6550.3
37005222800000	-79.23280	41.0267	33.9	1043.6	23.9	58.9	81.9	114.1	143.7	2846.5	6921.9
37005222850000	-79.40527	40.6392	31.9	1019.0	22.5	52.1	72.0	104.0	132.3	3253.5	7145.5
37005222950000	-79.42207	40.6606	30.7	1015.3	21.4	50.2	71.8	99.1	125.9	3378.5	7754.8
37005223010000	-79.35281	40.7242	37.5	1105.2	25.8	61.9	86.3	120.4	153.5	2906.6	5908.4
37005223150000	-79.24446	40.8123	32.6	1118.0	21.2	50.5	71.4	100.2	127.3	3357.8	7676.3
37005223740000	-79.38581	40.6598	30.5	1038.2	20.7	48.1	66.9	96.7	122.8	3531.7	7926.7
37005224080000	-79.35322	40.8706	29.2	1065.3	18.9	46.2	66.3	92.4	115.9	3807.0	8883.9
37005224090000	-79.35466	40.8676	29.2	1064.7	18.9	46.2	66.4	92.4	116.0	3800.9	8886.0
37005224120000	-79.23270	40.7712	31.8	1051.6	21.7	50.6	70.0	101.1	128.5	3359.5	7467.0
37005225080000	-79.23108	40.7748	31.2	1094.8	20.3	47.8	66.7	96.0	121.8	3551.8	8062.5
37005225880000	-79.58894	40.8781	30.0	1042.7	20.1	49.8	70.2	97.3	122.1	3506.0	8515.4
37005226210000	-79.21990	40.8476	35.1	1180.5	22.1	54.1	76.2	106.3	134.9	3120.6	7231.2

37005226370000	-79.22246	40.9944	30.0	1046.4	20.1	48.6	69.5	96.8	121.8	3615.5	8341.1
37005227080000	-79.23779	40.8421	35.5	1165.6	22.7	55.5	77.9	108.8	138.2	3048.4	6998.9
37005227250000	-79.27005	40.8059	33.4	1133.6	21.5	52.0	73.5	102.2	129.8	3256.5	7543.9
37005227320000	-79.25380	40.8884	28.6	983.6	20.0	47.6	68.6	95.0	119.4	3706.0	8506.2
37005227830000	-79.29810	40.8659	29.9	1151.5	18.2	44.6	64.1	89.2	112.3	3952.0	9164.4
37005227970000	-79.24249	40.8548	38.0	1144.8	25.3	61.8	85.8	120.6	153.3	2810.1	6036.3
37005228310000	-79.26029	40.7448	28.4	1135.1	17.1	40.6	57.4	82.7	104.5	4320.3	9700.0
37005228420000	-79.25967	40.8892	31.0	990.6	22.2	53.0	75.3	104.9	132.2	3188.3	7500.5
37005228430000	-79.31404	40.7541	36.1	1130.8	24.0	57.7	80.7	113.1	144.0	2969.6	6477.0
37005228740000	-79.24704	40.9036	29.7	1059.5	19.5	47.3	67.8	94.4	118.7	3729.0	8613.3
37005228970000	-79.24717	40.8163	30.0	1131.7	18.6	44.7	64.3	89.2	113.0	3924.2	8956.1
37005228990000	-79.30790	40.7134	33.4	1006.8	24.2	56.5	79.8	111.2	141.6	3019.0	6527.1
37005229010000	-79.24559	40.9062	32.1	1036.6	22.3	53.8	76.2	106.3	134.2	3129.3	7365.2
37005229280000	-79.25976	40.8307	29.8	1154.9	18.0	43.6	62.8	87.0	110.0	4066.4	9255.5
37005229450000	-79.27672	40.7701	31.7	1089.7	20.9	49.8	71.0	98.3	124.8	3395.6	7915.6
37005229550000	-79.25991	40.8965	26.4	893.1	19.5	45.6	66.3	91.2	114.5	3858.4	8866.2
37005229560000	-79.26266	40.8983	28.2	890.6	21.5	50.3	72.3	99.8	125.6	3460.1	7930.5
37005229620000	-79.27507	40.7264	34.4	1040.9	24.4	56.9	77.6	112.9	143.8	3153.0	6315.7
37005229780000	-79.26878	40.7785	34.6	1094.2	23.4	55.9	78.6	109.4	139.2	3035.7	6811.6
37005229800000	-79.28993	40.7197	34.7	1105.8	23.3	54.9	75.3	109.1	138.9	3120.4	6710.3
37005229840000	-79.23667	40.7623	35.6	1175.9	22.6	54.0	73.6	108.0	137.3	3179.0	6828.7
37005229850000	-79.23685	40.7594	35.0	1216.5	21.4	51.3	70.2	103.3	131.2	3318.0	7308.7
37005229870000	-79.25687	40.8913	29.4	976.0	20.9	49.6	71.2	98.7	124.2	3512.5	8096.9
37005230000000	-79.38239	40.6562	31.3	1128.1	19.8	46.8	65.0	94.4	119.7	3630.5	8242.5
37005230180000	-79.49586	40.7322	49.5	1547.5	26.2	67.7	90.4	131.9	167.8	2676.4	5233.8
37005230370000	-79.25964	40.8078	30.8	1103.7	19.8	47.2	67.6	93.7	118.8	3597.9	8412.5
37005230460000	-79.45605	40.8278	53.5	1556.6	28.6	75.1	99.0	145.9	184.6	2408.0	4648.5
37005230510000	-79.22171	40.8867	29.6	1096.4	18.8	45.8	65.7	91.6	115.2	3851.5	8912.9
37005230540000	-79.22044	40.8411	34.8	1109.5	23.2	55.9	78.8	109.5	139.2	3017.0	6863.9
37005230590000	-79.30160	40.7730	49.0	1555.1	25.7	66.3	88.7	128.8	164.4	2740.1	5375.7
37005230610000	-79.23183	40.8624	30.9	1110.7	19.7	47.9	68.5	95.2	120.2	3638.7	8446.0
37005230850000	-79.25148	40.8574	30.6	1129.6	19.1	46.5	66.6	92.6	116.8	3784.9	8720.4
37005230880000	-79.31403	40.7254	34.3	1151.2	22.0	53.1	74.8	104.5	132.9	3183.8	7301.1
37005230920000	-79.26121	40.8561	30.6	1133.9	19.1	46.5	66.6	92.5	116.7	3786.2	8726.5
37005230930000	-79.25705	40.8573	28.4	1173.8	16.5	40.6	59.0	81.7	102.7	4387.3	10035.8

37005230940000	-79.25714	40.8613	31.0	1162.5	18.9	46.5	66.4	92.6	116.8	3801.0	8763.6
37005230970000	-79.23436	40.8451	32.7	1121.1	21.1	51.2	72.8	101.0	128.0	3294.9	7755.2
37005230980000	-79.23115	40.9930	23.4	1004.0	14.3	34.4	51.7	70.6	87.8	5283.1	11413.1
37005231190000	-79.21990	40.8360	29.1	1103.7	18.2	43.9	63.5	87.3	110.4	4045.5	9215.0
37005231200000	-79.22804	40.8607	29.1	1146.7	17.6	43.0	62.1	86.1	108.4	4115.5	9497.8
37005231280000	-79.24046	40.7712	28.6	1104.9	17.7	42.0	60.0	84.9	107.4	4185.5	9424.9
37005231290000	-79.23400	40.8646	27.4	1101.6	16.7	40.7	59.3	81.9	102.9	4371.1	9994.8
37005231300000	-79.23499	40.8570	32.8	1129.0	21.1	51.4	72.8	101.5	128.4	3281.2	7774.2
37005231440000	-79.23998	40.9024	24.2	1069.9	14.2	34.6	51.7	70.9	88.4	5232.6	11374.6
37005231830000	-79.26229	40.8787	33.9	1129.6	22.1	54.2	76.2	107.2	135.3	3108.2	7346.7
37005231840000	-79.26193	40.8830	32.6	1116.2	21.2	51.9	73.4	103.0	129.8	3250.3	7754.6
37005231880000	-79.26012	40.8673	38.5	1100.0	26.8	65.4	90.5	127.9	162.2	2733.0	5596.5
37005231920000	-79.26266	40.9005	27.8	922.6	20.4	47.8	69.1	95.3	119.9	3693.4	8414.3
37005231950000	-79.22568	40.8565	29.6	1141.2	18.1	44.1	63.5	88.1	111.0	4003.7	9238.8
37005232140000	-79.26772	40.8940	30.5	995.5	21.6	51.5	73.5	102.1	128.7	3313.2	7752.4
37005232280000	-79.25451	40.8036	30.8	1104.6	19.7	47.0	67.4	93.7	118.9	3608.5	8392.5
37005232290000	-79.30432	40.8662	27.8	1046.7	18.0	43.3	62.9	87.0	109.3	4059.7	9395.2
37005232460000	-79.21783	41.0140	30.7	1004.6	21.6	52.2	74.2	103.2	129.8	3308.4	7763.8
37005232570000	-79.45370	40.8311	36.1	1128.7	24.0	59.7	83.0	117.0	147.5	2814.9	6635.5
37005232660000	-79.29438	40.8250	29.8	1156.4	18.0	44.0	63.4	87.7	110.7	4022.4	9258.0
37005232670000	-79.44608	40.8327	33.0	1099.4	21.8	53.7	75.7	106.2	133.6	3136.7	7543.3
37005232770000	-79.31533	40.8129	39.1	1142.1	26.3	64.5	89.1	125.7	159.6	2783.5	5711.2
37005232840000	-79.31100	40.8473	29.0	1051.6	19.0	45.9	66.2	91.9	115.5	3837.0	8862.4
37005232850000	-79.24306	40.9040	30.4	1018.0	21.0	50.4	72.0	100.1	126.1	3423.1	7968.5
37005232890000	-79.50891	40.5796	29.3	1159.8	17.5	42.1	60.5	84.8	107.3	4188.4	9480.8
37005232910000	-79.26645	40.8664	28.5	1140.0	17.1	42.0	60.8	84.7	106.2	4199.1	9727.3
37005232920000	-79.26302	40.8719	35.4	1118.3	23.6	57.9	80.9	114.1	144.2	2908.4	6713.9
37005233100000	-79.36855	40.8070	30.4	1072.3	19.9	48.2	68.9	95.7	120.7	3621.9	8383.6
37005233130000	-79.48539	40.7201	36.5	1118.0	24.6	59.4	83.1	115.8	147.5	2882.1	6302.0
37005233210000	-79.27530	40.8454	33.3	1128.4	21.6	52.2	74.0	102.8	130.4	3236.5	7544.0
37005233240000	-79.36160	40.8175	30.6	1088.4	19.8	48.2	68.9	96.0	121.0	3630.5	8397.0
37005233270000	-79.21845	40.8550	35.7	1099.7	24.3	58.7	82.3	114.8	145.8	2893.5	6454.5
37005233320000	-79.30052	40.8270	31.6	1081.1	20.9	50.5	71.9	100.0	126.4	3346.5	7914.9
37005233380000	-79.59057	40.8980	81.0	2653.6	27.1	63.6	88.9	123.2	155.3	2671.4	6042.1
37005233470000	-79.23938	40.7644	32.5	1145.7	20.5	48.7	67.2	97.7	124.1	3489.2	7889.5

37005233480000	-79.28841	40.8665	31.5	1071.1	21.0	50.8	72.2	100.7	127.1	3335.1	7885.1
37005233530000	-79.26787	40.7816	37.9	1093.0	26.4	63.2	88.0	122.8	156.6	2853.0	5696.8
37005233570000	-79.28272	40.8589	32.6	1072.3	22.0	53.1	75.2	104.7	132.4	3182.1	7435.8
37005233580000	-79.27892	40.8611	37.2	1086.9	26.0	63.0	87.6	122.9	156.0	2755.1	5891.6
37005233610000	-79.31788	40.8835	26.7	1043.9	16.9	40.8	59.7	82.4	103.2	4342.3	9956.3
37005233620000	-79.31734	40.8806	31.0	996.7	22.1	52.8	75.1	104.4	131.7	3198.9	7510.6
37005233630000	-79.46818	40.8294	46.1	1350.9	27.5	70.9	95.2	137.2	173.3	2521.9	5224.1
37005233650000	-79.23002	40.8571	31.7	1129.3	20.1	48.9	69.7	97.0	122.6	3510.6	8235.3
37005233660000	-79.23246	40.8594	35.1	1129.6	23.1	56.3	79.0	110.6	140.2	2994.3	6908.5
37005233690000	-79.46836	40.8263	31.2	1111.0	20.0	49.7	70.3	97.9	122.9	3530.4	8432.6
37005233730000	-79.26437	40.8746	32.5	1108.3	21.2	51.9	73.4	103.0	129.8	3249.7	7737.1
37005233760000	-79.35255	40.7902	33.1	1150.0	20.9	50.9	72.3	100.4	127.3	3315.9	7809.5
37005233770000	-79.26069	41.0225	30.2	985.7	21.5	52.6	73.8	102.1	128.2	3340.1	8013.4
37005233830000	-79.34377	40.7955	31.7	1130.2	20.1	48.8	69.6	96.6	122.2	3498.4	8236.6
37005233840000	-79.30185	40.8073	33.8	1161.9	21.3	51.9	73.5	102.2	129.7	3254.8	7611.2
37005233850000	-79.29374	40.8053	31.1	1087.5	20.4	48.7	69.7	96.2	122.0	3476.3	8165.9
37005233880000	-79.25181	40.9010	32.2	1039.4	22.3	53.9	76.2	106.7	134.5	3123.9	7373.4
37005233920000	-79.30413	40.8232	30.2	1097.0	19.3	46.7	67.0	92.9	117.2	3772.8	8675.6
37005233940000	-79.35746	40.7985	27.7	1079.9	17.3	41.7	60.8	83.5	105.2	4269.5	9728.4
37005233980000	-79.26606	40.7571	31.8	1138.4	20.0	48.0	68.0	95.6	121.4	3526.2	8181.9
37005234000000	-79.38539	40.8228	30.8	1102.5	19.8	48.2	68.8	96.1	121.0	3640.1	8422.6
37005234010000	-79.38286	40.8204	27.8	1103.1	17.1	41.7	60.6	84.1	105.4	4234.2	9786.9
37005234180000	-79.29871	40.8051	28.6	1105.8	17.7	42.6	61.9	85.0	107.4	4180.9	9488.8
37005234230000	-79.34812	40.7975	27.7	1124.4	16.7	40.5	59.1	81.4	102.4	4403.4	10020.9
37005234250000	-79.34381	40.7921	28.0	1141.5	16.6	40.4	59.0	81.1	102.1	4427.0	10039.3
37005234320000	-79.32766	40.9101	32.9	1091.2	21.9	53.7	75.6	106.2	133.9	3138.6	7468.1
37005234400000	-79.28778	40.8588	28.7	1071.4	18.4	44.3	64.1	88.4	111.4	3986.1	9167.9
37005234450000	-79.26123	41.0186	31.9	979.6	23.4	57.2	79.6	110.5	139.0	2981.2	7234.7
37005234460000	-79.37262	40.8081	34.3	1072.3	23.6	56.9	80.0	111.7	141.5	2969.9	6793.7
37005234610000	-79.47125	40.8278	32.9	1133.9	21.0	52.6	73.9	103.3	129.8	3305.0	7916.1
37005234620000	-79.22181	41.0170	28.9	988.2	20.1	48.5	69.6	96.1	120.7	3620.5	8494.9
37005234630000	-79.47513	40.8231	37.9	1096.1	26.4	65.7	90.3	126.8	160.1	2558.5	5942.6
37005234650000	-79.26498	40.7602	33.7	1156.4	21.4	51.4	72.5	101.9	129.5	3293.9	7530.0
37005234670000	-79.25524	40.7745	32.5	1128.7	20.8	50.0	71.0	99.0	125.7	3387.1	7841.5
37005234760000	-79.28409	40.7198	35.8	1103.7	24.3	57.2	77.7	113.6	144.7	3152.7	6286.7

37005234880000	-79.26752	40.8042	32.6	1072.6	22.0	52.4	74.4	103.0	130.9	3229.5	7420.0
37005234890000	-79.23078	40.9631	26.7	963.5	18.4	43.6	63.5	87.5	109.7	4033.0	9330.3
37005234940000	-79.25830	40.7717	31.9	1149.4	20.0	48.1	68.5	95.6	121.2	3518.9	8221.9
37005234950000	-79.24403	40.8181	34.6	1100.6	23.3	55.7	78.3	109.3	139.1	3054.1	6802.3
37005235000000	-79.23379	40.8673	31.6	1121.7	20.1	49.2	69.9	97.6	123.1	3510.7	8219.8
37005235010000	-79.26374	40.8683	29.9	1081.4	19.4	47.0	67.4	93.9	118.2	3756.2	8637.7
37005235030000	-79.27965	40.8729	27.2	1054.0	17.3	41.7	60.8	84.0	105.4	4237.6	9762.3
37005235040000	-79.47116	40.8270	31.4	1110.7	20.2	50.4	71.1	99.0	124.3	3480.6	8334.9
37005235050000	-79.32667	40.8046	34.8	1157.0	22.3	54.7	76.8	107.6	136.3	3084.7	7191.4
37005235150000	-79.32345	40.8084	31.9	1100.6	20.8	50.5	71.7	99.9	126.2	3351.5	7949.8
37005235200000	-79.36415	40.8587	30.5	1083.0	19.9	48.7	69.4	97.0	121.9	3617.4	8413.2
37005235210000	-79.36397	40.8621	26.8	933.6	19.1	45.3	65.7	90.5	113.4	3875.2	9024.9
37005235220000	-79.36325	40.8668	29.1	974.1	20.6	49.3	70.6	97.9	123.1	3582.5	8241.9
37005235240000	-79.22288	40.8561	30.5	1079.9	19.9	47.9	68.6	95.0	120.0	3622.0	8400.1
37005235250000	-79.31805	40.8524	28.4	1092.1	17.8	43.4	62.8	87.3	109.5	4044.1	9431.0
37005235370000	-79.30053	40.9428	31.0	1119.5	19.7	48.7	69.2	96.8	121.5	3612.3	8493.6
37005235400000	-79.39017	40.8067	29.6	1015.6	20.3	48.5	69.6	96.4	121.5	3598.1	8288.4
37005235500000	-79.22535	40.8163	34.2	1193.3	21.1	51.1	71.7	101.5	128.9	3312.9	7595.3
37005235510000	-79.22900	40.8163	34.8	1199.4	21.5	52.2	73.2	103.5	131.5	3241.7	7400.9
37005235520000	-79.22632	40.8137	33.6	1193.9	20.6	49.9	70.1	99.4	126.2	3391.7	7809.5
37005235530000	-79.22029	40.8099	30.0	1083.6	19.4	45.7	65.2	91.6	116.1	3736.5	8599.5
37005235540000	-79.22350	40.8081	32.6	1184.5	19.9	48.0	67.3	95.9	121.8	3532.9	8165.3
37005235550000	-79.22423	40.8109	33.7	1204.0	20.6	49.8	69.6	99.3	126.1	3401.7	7815.9
37005235560000	-79.22047	40.8132	31.8	1163.1	19.6	47.3	67.0	94.4	119.8	3582.3	8340.0
37005235570000	-79.31568	40.7773	32.0	1155.5	19.9	48.3	68.8	95.5	121.1	3505.2	8272.5
37005235580000	-79.32055	40.7773	29.1	1147.6	17.6	42.5	61.5	84.8	107.2	4190.7	9518.9
37005235590000	-79.32062	40.7740	32.0	1193.9	19.2	46.9	66.8	93.1	118.0	3654.2	8556.5
37005235630000	-79.41021	40.7904	25.4	1072.0	15.3	36.9	54.7	74.8	93.7	4886.5	10846.1
37005235640000	-79.26663	40.8724	29.9	1080.5	19.4	47.1	67.5	94.0	118.3	3747.1	8641.2
37005235800000	-79.26672	40.8794	29.6	1058.6	19.5	47.2	67.7	94.2	118.5	3736.4	8613.8
37005235870000	-79.28330	40.7668	32.3	1130.5	20.6	49.5	70.3	97.9	124.3	3421.8	7969.7
37005235880000	-79.46917	40.8369	31.6	1123.5	20.1	50.2	70.9	98.9	124.2	3498.2	8331.0
37005235920000	-79.47640	40.8454	47.1	1161.9	32.8	82.8	110.9	157.8	199.9	2196.3	4243.6
37005235980000	-79.46520	40.8321	30.1	1089.4	19.3	48.0	68.2	94.7	118.7	3636.8	8764.7
37005235990000	-79.30756	40.8259	32.0	1108.6	20.7	50.5	71.6	100.0	126.2	3353.6	7961.7

37005236000000	-79.46113	40.8328	30.8	1104.3	19.7	49.0	69.6	96.9	121.6	3580.0	8519.9
37005236010000	-79.32806	40.7711	31.7	1173.2	19.3	47.1	67.1	93.2	118.2	3652.0	8536.8
37005236080000	-79.22785	40.8546	31.6	1125.3	20.1	48.9	69.6	96.7	122.4	3501.2	8228.5
37005236090000	-79.30660	40.9495	48.7	1356.4	29.3	75.4	100.8	146.0	184.7	2400.6	4646.2
37005236120000	-79.36711	40.7794	31.8	1140.6	20.0	48.4	69.0	95.6	121.3	3497.9	8253.2
37005236160000	-79.46402	40.8350	33.0	1116.5	21.5	53.5	75.1	104.9	131.9	3225.3	7748.9
37005236320000	-79.32479	40.7781	29.2	1109.5	18.2	43.8	63.3	87.1	110.2	4058.5	9224.2
37005236360000	-79.32425	40.7810	30.9	1110.4	19.7	47.4	67.9	93.8	118.8	3626.8	8450.2
37005236470000	-79.22809	41.0304	26.5	950.4	18.4	44.5	64.3	87.9	110.0	4017.8	9423.9
37005236500000	-79.23478	40.9918	28.5	1018.3	19.2	46.5	67.0	92.8	116.4	3768.8	8846.7
37005236530000	-79.27905	40.9519	31.1	960.1	23.0	55.0	78.0	108.3	136.4	3065.7	7236.2
37005236570000	-79.44846	40.8307	29.1	1057.4	19.0	46.5	66.7	92.6	116.1	3762.5	8909.4
37005236580000	-79.37708	40.8151	29.6	1086.3	19.0	46.1	66.3	92.2	116.0	3826.0	8821.3
37005236600000	-79.28958	40.8454	31.3	1051.6	21.2	50.7	72.4	100.2	126.8	3328.5	7809.5
37005236610000	-79.23582	40.8900	29.4	1084.5	18.8	45.9	65.9	91.8	115.4	3837.9	8903.9
37005236700000	-79.28321	40.7700	30.7	1100.0	19.8	47.3	67.8	93.7	118.9	3607.9	8425.1
37005236710000	-79.28267	40.7729	31.6	1104.0	20.5	49.1	70.0	96.8	122.8	3447.4	8092.9
37005236740000	-79.51500	40.8600	31.3	994.6	22.5	55.4	76.8	106.7	134.1	3154.4	7636.7
37005236770000	-79.50253	40.8401	30.7	1097.6	19.8	49.6	69.5	96.8	121.4	3510.7	8621.2
37005236840000	-79.23153	41.0321	20.7	816.0	14.4	33.5	50.7	67.8	84.2	5575.2	11683.9
37005236960000	-79.29311	40.7768	32.2	1129.3	20.6	49.7	70.6	97.9	124.3	3398.4	7998.2
37005237060000	-79.24135	40.9223	29.0	1051.3	19.0	46.1	66.3	92.2	115.8	3821.4	8860.5
37005237110000	-79.24302	40.8214	28.8	1122.9	17.7	42.4	61.5	84.9	107.3	4188.3	9487.6
37005237120000	-79.45048	40.7427	41.3	1232.6	26.2	64.9	89.3	126.2	160.7	2780.5	5507.6
37005237250000	-79.32359	40.9104	21.1	1039.4	11.6	28.1	43.5	58.9	72.8	6452.7	12752.8
37005237260000	-79.35972	40.8642	26.7	1043.3	16.9	41.3	60.2	83.1	103.8	4298.2	9963.5
37005237270000	-79.35954	40.8611	27.8	1042.4	18.0	43.9	63.5	87.9	110.0	4014.5	9415.2
37005237280000	-79.35945	40.8578	27.9	1013.2	18.7	45.3	65.4	90.3	113.2	3868.1	9122.7
37005237290000	-79.27124	40.9345	29.0	1024.7	19.5	46.9	67.4	93.6	117.7	3762.5	8671.6
37005237480000	-79.30605	40.9401	25.8	912.6	18.4	43.3	63.3	86.8	108.7	4073.8	9431.8
37005237530000	-79.32950	40.9526	30.1	1096.7	19.3	47.8	68.0	94.6	118.7	3667.9	8739.1
37005237620000	-79.40409	40.8400	28.4	968.4	20.1	47.8	68.8	95.3	119.7	3687.6	8492.3
37005237700000	-79.23878	40.8393	31.7	1128.4	20.1	48.6	69.4	96.1	121.7	3486.2	8233.6
37005237730000	-79.34398	40.7563	31.1	1129.6	19.6	47.3	67.6	93.5	118.6	3628.9	8474.2
37005237770000	-79.31959	40.8425	30.0	1088.4	19.3	47.3	67.6	94.4	118.6	3727.1	8654.7

37005237800000	-79.29275	40.7681	32.3	1114.0	20.9	50.1	71.2	98.9	125.6	3380.8	7855.5
37005237810000	-79.46854	40.8219	30.5	1100.0	19.6	48.6	69.0	96.0	120.4	3604.3	8624.4
37005237860000	-79.33319	40.7842	30.3	1105.5	19.2	46.3	66.7	91.9	116.3	3771.2	8693.5
37005237870000	-79.46809	40.8451	31.0	914.7	24.1	57.4	81.1	111.7	140.7	2930.3	6989.3
37005238010000	-79.45270	40.6395	28.0	1059.2	17.9	42.1	60.7	84.9	107.5	4183.7	9400.4
37005238020000	-79.45143	40.6315	22.5	1068.0	12.7	29.8	45.0	62.2	78.0	6169.2	12417.3
37005238030000	-79.46041	40.6367	29.4	1059.8	19.2	45.3	65.4	90.6	114.8	3826.4	8723.3
37005238160000	-79.31985	40.8163	30.7	1097.0	19.8	48.2	68.8	96.0	120.9	3634.5	8409.7
37005238190000	-79.24471	40.9158	25.1	966.5	16.6	39.5	58.3	80.0	100.0	4499.1	10232.9
37005238220000	-79.34706	40.8034	28.9	1044.2	19.1	45.6	65.9	90.9	114.6	3876.7	8869.5
37005238230000	-79.35889	40.8096	28.7	1072.0	18.4	44.4	64.2	88.7	111.6	3975.1	9165.3
37005238270000	-79.29007	40.7727	28.4	1136.0	17.1	41.3	60.1	82.7	104.4	4323.1	9778.0
37005238320000	-79.47224	40.8214	30.8	1103.4	19.8	49.2	69.6	96.8	121.5	3565.3	8545.1
37005238440000	-79.31733	40.8497	29.2	1026.0	19.7	47.4	68.1	94.6	119.0	3721.2	8566.8
37005238450000	-79.49177	40.8535	30.8	1102.2	19.8	49.6	69.4	96.8	121.3	3510.8	8634.0
37005238460000	-79.29817	40.8309	29.1	1057.1	19.0	45.6	65.8	90.9	114.6	3874.8	8883.6
37005238550000	-79.48670	40.8241	32.5	1105.8	21.2	53.2	74.2	103.6	130.2	3294.9	7932.1
37005238560000	-79.48516	40.8350	32.7	1168.9	20.3	51.4	71.7	100.5	126.2	3405.1	8262.4
37005238570000	-79.47313	40.7290	30.6	1090.6	19.8	47.6	68.4	94.3	119.3	3620.9	8418.7
37005238590000	-79.33677	40.8337	31.1	1086.0	20.4	49.8	70.8	99.1	124.6	3501.5	8162.1
37005238600000	-79.27271	40.9402	27.2	1001.9	18.2	43.6	63.4	87.6	109.9	4025.5	9360.4
37005238770000	-79.39550	40.7959	31.5	1116.5	20.2	48.9	69.8	96.7	122.4	3489.6	8213.7
37005238870000	-79.45969	40.8181	34.2	1111.0	22.7	56.2	78.7	110.6	139.2	2987.1	7162.9
37005238890000	-79.51048	40.8441	34.1	1098.2	22.8	57.2	78.9	110.6	139.1	2964.3	7307.7
37005238900000	-79.22690	40.9898	29.6	1053.1	19.5	47.4	67.9	94.6	118.9	3724.1	8603.2
37005238930000	-79.51700	40.7508	33.7	1199.4	20.6	51.5	72.3	102.4	128.8	3329.1	7926.8
37005238950000	-79.43766	40.8419	31.0	1120.1	19.7	48.5	69.0	96.7	121.5	3628.9	8471.0
37005239010000	-79.42903	40.8328	30.1	1092.1	19.3	47.2	67.5	94.4	118.6	3732.0	8657.4
37005239020000	-79.44775	40.8484	33.1	1150.3	20.9	52.2	73.4	103.2	129.7	3306.7	7875.9
37005239030000	-79.45458	40.8466	29.7	1101.2	18.8	46.5	66.4	92.3	115.7	3757.6	8997.2
37005239040000	-79.49176	40.8402	31.2	1135.4	19.6	49.3	69.1	96.5	121.0	3531.4	8661.2
37005239070000	-79.23070	40.9903	27.2	1004.3	18.2	43.6	63.4	87.6	109.8	4026.1	9362.0
37005239110000	-79.48291	40.8492	34.8	1152.8	22.4	56.5	78.0	109.6	137.8	3008.6	7409.5
37005239130000	-79.28376	40.7763	33.3	1086.6	22.4	53.7	76.0	105.3	133.8	3152.2	7232.7
37005239160000	-79.49163	40.5713	30.9	1157.0	19.0	45.1	62.9	91.2	115.6	3767.5	8640.0

37005239180000	-79.29383	40.7728	30.0	1086.3	19.3	46.3	66.5	91.7	116.1	3761.3	8670.8
37005239240000	-79.31053	40.7708	29.5	1086.3	18.8	44.9	64.8	89.4	113.2	3914.4	8923.8
37005239260000	-79.28717	40.9457	31.5	992.1	22.7	54.7	77.5	107.8	135.7	3082.8	7307.9
37005239320000	-79.25820	40.8249	31.0	1117.1	19.7	47.2	67.6	93.6	118.7	3605.1	8440.4
37005239380000	-79.54151	40.6496	31.9	1145.7	20.0	48.4	68.9	95.6	121.2	3499.9	8261.3
37005239390000	-79.52277	40.7467	29.8	1115.9	18.7	46.1	65.9	92.2	115.6	3811.7	8946.5
37005239400000	-79.23101	40.8381	31.0	1118.9	19.7	47.4	68.0	93.9	118.9	3632.0	8462.1
37005239410000	-79.43777	40.8390	31.3	1102.5	20.3	49.8	70.7	99.1	124.6	3514.7	8202.8
37005239430000	-79.22735	40.9943	29.0	1012.2	19.8	47.6	68.4	95.0	119.4	3699.8	8553.3
37005239440000	-79.46036	40.8399	30.6	1130.8	19.1	47.7	67.7	94.4	118.3	3658.4	8808.0
37005239460000	-79.45019	40.8464	37.5	1110.4	25.7	63.7	88.1	124.2	156.9	2644.9	6061.6
37005239570000	-79.39833	40.9079	31.9	1063.5	21.6	53.7	74.8	104.2	130.9	3268.5	7877.6
37005239650000	-79.46108	40.8434	28.3	1081.1	17.8	44.2	63.5	87.7	109.8	4024.5	9503.2
37005239670000	-79.44810	40.8276	28.7	1074.1	18.4	45.1	64.8	90.2	113.0	3884.7	9168.6
37005239700000	-79.23255	40.8522	31.7	1132.0	20.1	48.8	69.6	96.7	122.3	3508.6	8239.7
37005239720000	-79.23237	40.8494	31.7	1131.7	20.1	48.8	69.6	96.6	122.2	3502.4	8239.1
37005239780000	-79.55561	40.5694	31.1	1173.2	18.9	45.8	65.6	91.1	115.4	3789.9	8769.8
37005239890000	-79.53185	40.5704	31.6	1082.0	20.9	49.6	70.8	98.3	124.9	3418.1	7863.4
37005239900000	-79.28773	40.7707	36.4	1107.0	24.7	59.4	83.0	115.8	147.5	2927.1	6257.1
37005239910000	-79.40360	40.9058	33.5	1141.2	21.5	54.2	75.1	105.3	132.3	3211.5	7809.3
37005239940000	-79.44478	40.8267	31.3	1099.7	20.3	49.9	70.8	99.2	124.7	3513.5	8200.3
37005239950000	-79.29962	40.8536	25.1	1095.8	14.7	35.7	53.1	72.6	90.9	5070.1	11124.7
37005239990000	-79.24122	40.9121	26.9	1022.3	17.5	42.2	61.5	85.0	106.5	4179.1	9658.0
37005240010000	-79.31296	40.8529	30.6	1087.5	19.8	48.3	68.9	96.2	121.1	3632.8	8398.4
37005240070000	-79.24637	40.9986	28.5	1054.9	18.5	45.4	65.3	90.2	112.9	3856.6	9208.9
37005240220000	-79.43483	40.8369	32.1	1119.5	20.6	50.9	72.0	101.1	127.2	3396.6	7994.3
37005240230000	-79.32690	40.8383	32.2	1129.3	20.6	50.7	71.8	100.9	127.0	3400.7	8005.5
37005240330000	-79.44991	40.8213	29.4	1043.3	19.6	47.8	68.4	95.0	119.3	3681.6	8622.5
37005240360000	-79.45767	40.8158	27.2	1043.9	17.5	42.6	61.9	85.5	106.9	4152.7	9697.8
37005240450000	-79.49642	40.7685	33.7	1159.5	21.3	52.9	74.4	105.0	132.2	3180.7	7629.9
37005240460000	-79.50895	40.7505	32.3	1175.6	19.8	49.2	69.6	98.0	123.3	3548.9	8310.7
37005240470000	-79.50404	40.7521	33.9	1172.6	21.2	52.7	74.0	104.4	131.6	3195.4	7650.2
37005240480000	-79.45334	40.8257	31.3	1099.7	20.3	50.1	71.1	99.2	124.7	3515.5	8239.7
37005240520000	-79.50220	40.7549	34.7	1190.6	21.6	53.7	75.1	106.2	134.0	3130.8	7477.1
37005240530000	-79.51692	40.7398	32.8	1169.8	20.3	50.4	71.1	100.2	126.2	3421.5	8076.9

37005240550000	-79.49046	40.7620	31.0	1159.5	18.9	46.8	66.7	93.6	117.7	3764.9	8750.5
37005240560000	-79.51461	40.7310	34.9	1161.3	22.3	55.0	77.0	108.7	137.3	3066.6	7197.6
37005240570000	-79.50256	40.7369	31.4	1152.1	19.5	47.8	68.1	95.2	120.0	3659.4	8502.4
37005240620000	-79.31877	40.8357	27.8	1089.7	17.3	42.3	61.3	85.2	106.7	4168.0	9693.0
37005240670000	-79.39887	40.8959	27.9	1139.0	16.6	41.8	60.0	83.1	103.8	4299.5	10080.2
37005240680000	-79.29041	40.7278	34.0	1133.9	22.0	52.5	73.0	104.4	132.7	3222.9	7225.2
37005240730000	-79.52593	40.6091	32.6	1201.5	19.7	48.0	68.2	95.1	120.6	3524.7	8339.0
37005240740000	-79.28212	40.7415	32.3	1094.2	21.3	50.4	70.6	100.4	127.7	3365.0	7600.3
37005240770000	-79.52086	40.7420	33.2	1158.2	20.9	51.7	72.9	102.8	129.4	3298.4	7840.1
37005240800000	-79.51505	40.7484	24.1	894.3	16.8	39.3	58.3	79.6	99.6	4526.6	10231.9
37005240820000	-79.39833	40.9019	31.1	1124.7	19.6	49.2	69.3	96.6	121.2	3547.5	8619.1
37005240880000	-79.29106	40.7607	30.8	1104.0	19.7	47.1	67.5	93.7	118.8	3602.1	8404.0
37005240890000	-79.49226	40.7551	29.9	1160.1	18.0	44.3	63.6	89.0	111.8	3966.9	9232.0
37005240910000	-79.54176	40.6421	29.6	1100.9	18.8	45.1	65.1	89.6	113.3	3919.8	8947.3
37005240920000	-79.39887	40.8988	31.5	1154.9	19.5	49.0	69.0	96.3	120.8	3559.8	8660.4
37005240960000	-79.54543	40.6417	26.1	923.5	18.6	42.9	63.0	85.5	108.0	4150.2	9321.9
37005240970000	-79.53814	40.6417	28.9	1091.8	18.2	43.6	63.3	86.9	109.8	4069.5	9257.7
37005241000000	-79.40900	40.9040	31.8	1140.3	20.0	50.6	70.5	98.6	123.7	3455.7	8460.8
37005241010000	-79.49188	40.7595	34.0	1140.3	22.0	54.1	76.0	107.0	135.0	3112.3	7369.8
37005241020000	-79.45390	40.8519	24.4	1122.3	13.7	34.1	50.8	69.6	86.4	5398.9	11592.0
37005241140000	-79.39065	40.8308	26.9	976.9	18.3	43.5	63.3	87.2	109.5	4049.4	9347.2
37005241150000	-79.39036	40.8344	26.9	1023.2	17.5	42.3	61.6	85.2	106.7	4168.5	9656.6
37005241180000	-79.48895	40.7746	24.9	875.4	18.2	42.4	62.2	85.1	106.6	4169.6	9573.4
37005241190000	-79.45145	40.8346	30.6	1133.6	19.1	47.4	67.6	94.4	118.4	3697.4	8761.6
37005241260000	-79.42501	40.8291	23.2	870.2	16.3	37.7	56.3	76.6	95.7	4751.6	10575.5
37005241310000	-79.42427	40.9229	25.2	939.4	17.3	42.0	60.5	82.7	103.3	4323.1	10049.1
37005241350000	-79.38078	40.8151	26.3	977.5	17.7	42.0	61.5	84.5	106.0	4210.5	9640.1
37005241360000	-79.39563	40.9229	30.2	1102.5	19.3	48.3	67.9	94.5	118.4	3605.3	8865.7
37005241410000	-79.49845	40.5460	29.0	1093.3	18.3	43.0	60.5	87.1	110.3	4051.6	9111.3
37005241460000	-79.45243	40.8097	34.2	1106.1	22.8	55.8	78.3	110.3	139.1	3017.6	7096.1
37005241470000	-79.41965	40.8908	34.2	1112.8	22.7	57.0	78.6	110.3	138.7	2983.0	7346.5
37005241500000	-79.41578	40.8962	24.1	1140.9	13.2	33.3	49.2	67.4	83.6	5621.6	11853.1
37005241510000	-79.41232	40.8920	29.0	1093.3	18.3	45.8	64.8	89.9	112.6	3881.7	9331.7
37005241520000	-79.41216	40.8950	31.2	1131.1	19.6	49.3	69.1	96.5	121.0	3529.0	8656.7
37005241560000	-79.53675	40.6446	32.1	1122.0	20.6	49.8	71.1	98.3	124.7	3388.5	7985.7

37005241630000	-79.37970	40.9069	30.4	1115.9	19.2	47.9	68.0	94.4	118.4	3641.2	8814.5
37005241660000	-79.39381	40.9023	31.4	1108.3	20.2	50.6	71.0	99.0	124.3	3458.3	8374.2
37005241720000	-79.56364	40.6332	34.0	1138.4	22.0	53.2	75.0	104.4	132.6	3180.3	7344.3
37005241790000	-79.55385	40.6387	29.6	1098.8	18.8	45.0	64.9	89.4	113.1	3918.8	8947.6
37005241900000	-79.43879	40.8177	33.6	1064.4	23.1	56.3	79.1	111.2	140.2	2992.5	7004.8
37005242000000	-79.38902	40.8383	22.7	839.1	16.4	37.8	56.5	76.7	95.7	4740.2	10575.1
37005242040000	-79.41099	40.9018	30.7	1141.5	19.0	48.1	67.5	94.2	118.0	3620.6	8915.0
37005242060000	-79.50273	40.5501	33.1	1111.0	21.7	51.2	70.5	102.5	130.2	3306.5	7363.7
37005242080000	-79.40900	40.8995	30.5	1125.0	19.1	48.1	67.6	94.3	118.2	3617.2	8884.4
37005242200000	-79.54383	40.6379	28.3	962.9	20.1	46.8	67.9	92.8	117.5	3708.8	8480.7
37005242300000	-79.24311	40.8265	39.1	1143.6	26.3	63.5	88.0	123.6	157.7	2843.1	5642.0
37005242320000	-79.45906	40.8215	25.2	1143.3	14.2	35.3	52.3	72.0	89.6	5148.5	11308.0
37005242330000	-79.46240	40.8204	30.6	1134.5	19.1	47.6	67.6	94.4	118.4	3680.8	8785.9
37005242340000	-79.46502	40.8228	31.5	1117.4	20.2	50.2	71.0	99.0	124.3	3497.3	8317.9
37005242350000	-79.36847	40.9254	29.7	1101.6	18.8	46.8	66.5	92.2	115.6	3729.7	9056.1
37005242370000	-79.54383	40.6473	28.4	1008.9	19.3	45.2	65.5	89.7	113.6	3893.0	8837.8
37005242410000	-79.36485	40.9237	32.4	1159.8	20.1	50.7	71.2	99.6	125.1	3463.6	8301.2
37005242460000	-79.38305	40.9084	30.4	1117.7	19.2	48.0	67.9	94.4	118.4	3637.6	8829.7
37005242490000	-79.54068	40.6349	24.7	901.6	17.4	40.2	59.6	80.6	101.5	4459.9	9951.4
37005242510000	-79.45155	40.8489	34.8	1115.0	23.2	57.5	80.3	112.7	142.0	2921.0	7002.9
37005242610000	-79.23490	40.8393	33.6	1152.1	21.4	52.0	73.6	102.3	129.8	3252.0	7591.1
37005242620000	-79.39144	40.8266	29.8	1112.8	18.7	45.8	65.7	91.6	115.1	3846.1	8936.5
37005242660000	-79.31080	40.8831	28.6	1024.4	19.2	46.1	66.5	92.2	115.8	3820.5	8830.2
37005242670000	-79.27894	40.9113	28.9	1042.4	19.1	46.0	66.3	92.0	115.7	3826.9	8853.2
37005242690000	-79.26998	40.9427	26.8	998.2	17.9	42.9	62.5	86.3	108.1	4102.9	9531.1
37005242700000	-79.44414	40.8489	28.3	1124.7	17.2	42.6	61.5	85.4	106.9	4153.4	9748.1
37005242770000	-79.38734	40.9048	29.8	1111.6	18.7	46.8	66.4	92.2	115.5	3732.3	9070.0
37005242780000	-79.37753	40.7719	35.6	1129.9	23.5	56.9	79.8	111.2	141.4	2983.8	6711.9
37005242800000	-79.36718	40.7766	33.6	1150.3	21.4	51.9	73.3	102.0	129.6	3258.6	7585.5
37005242910000	-79.41622	40.8759	28.3	1041.2	18.5	45.9	65.3	90.2	112.9	3865.8	9268.5
37005242920000	-79.39388	40.8984	27.7	1124.7	16.7	41.7	60.1	83.1	103.8	4298.7	10065.9
37005243040000	-79.54961	40.7499	31.7	1129.9	20.1	49.8	70.5	99.0	124.3	3532.3	8264.8
37005243050000	-79.41947	40.9074	32.0	1152.1	19.9	50.5	70.4	98.5	123.6	3461.2	8478.9
37005243060000	-79.44920	40.8510	30.8	1144.5	19.0	47.5	67.5	94.3	118.3	3691.4	8790.8
37005243080000	-79.28595	40.9582	33.9	1132.0	22.0	54.7	76.6	107.9	135.9	3075.4	7396.2

37005243150000	-79.41544	40.8938	35.9	1114.0	24.2	60.8	83.3	117.1	147.4	2754.3	6777.2
37005243160000	-79.38805	40.8419	20.1	809.2	13.7	31.5	48.4	64.9	80.5	5848.9	12019.2
37005243210000	-79.50640	40.6512	34.5	1133.9	22.5	54.3	76.5	106.5	135.5	3117.3	7113.9
37005243220000	-79.38549	40.8957	30.6	1128.1	19.1	47.8	67.8	94.4	118.3	3648.0	8823.4
37005243290000	-79.34396	40.8207	32.9	1136.6	21.0	51.7	73.0	102.6	129.4	3262.8	7792.6
37005243300000	-79.38602	40.8369	22.1	871.1	15.0	34.9	52.6	71.3	88.8	5197.8	11247.1
37005243310000	-79.38561	40.8399	22.6	868.7	15.6	36.4	54.6	74.2	92.5	4940.6	10906.0
37005243320000	-79.50810	40.5467	30.4	1073.2	19.9	46.9	66.1	93.9	119.2	3618.1	8301.2
37005243340000	-79.51214	40.5476	26.4	1111.0	15.7	37.2	53.9	76.1	96.0	4792.0	10578.3
37005243360000	-79.21333	41.0167	23.7	832.1	17.7	41.0	60.7	82.4	103.0	4339.5	9901.8
37005243390000	-79.53760	40.8626	25.6	1052.5	15.8	39.2	56.8	78.0	97.2	4639.6	10629.4
37005243400000	-79.49037	40.7668	30.4	1117.1	19.2	47.1	67.3	94.2	118.3	3739.1	8691.3
37005243410000	-79.41631	40.8790	28.6	1067.4	18.4	45.8	65.1	90.1	112.7	3872.7	9295.5
37005243420000	-79.44088	40.8476	27.5	1146.1	16.1	40.1	58.3	81.0	101.1	4434.2	10263.6
37005243440000	-79.52208	40.6718	33.3	1211.3	20.1	49.2	69.7	97.1	123.2	3430.6	8143.1
37005243450000	-79.37896	40.8512	23.9	840.3	17.7	40.9	60.4	82.4	103.1	4340.7	9884.6
37005243470000	-79.37210	40.8555	22.1	870.8	15.0	34.9	52.7	71.4	88.9	5193.5	11243.1
37005243480000	-79.37246	40.8513	24.7	900.4	17.4	40.8	60.2	82.4	103.1	4341.6	9910.6
37005243540000	-79.44845	40.7990	31.1	1083.0	20.4	50.0	71.0	99.3	124.9	3504.1	8170.0
37005243550000	-79.28291	40.9512	27.6	992.4	18.8	45.2	65.5	90.4	113.3	3871.6	9091.5
37005243610000	-79.54063	40.6448	29.4	996.4	20.4	47.9	69.0	94.6	119.9	3554.1	8266.9
37005243630000	-79.53227	40.6764	34.9	1210.4	21.4	52.6	74.0	103.4	131.3	3210.9	7496.6
37005243640000	-79.45813	40.8349	30.1	1093.0	19.3	47.8	68.1	94.7	118.7	3667.3	8733.9
37005243650000	-79.53200	40.6593	26.5	946.7	18.4	42.8	62.7	85.3	107.8	4164.5	9349.1
37005243660000	-79.52032	40.8610	29.1	1020.5	19.7	48.8	68.7	95.1	119.2	3571.9	8765.8
37005243690000	-79.52902	40.6780	35.6	1202.7	22.1	54.2	76.0	106.3	135.2	3117.7	7194.9
37005243710000	-79.55197	40.6553	28.9	960.1	20.7	48.1	69.4	95.0	120.5	3529.6	8193.6
37005243720000	-79.43998	40.8502	29.9	1079.9	19.4	47.9	68.2	94.8	118.9	3657.9	8722.7
37005243730000	-79.41290	40.8861	28.2	1076.6	17.9	44.5	63.4	87.7	109.7	4030.9	9560.7
37005243750000	-79.28167	40.9342	28.4	965.9	20.1	47.9	69.0	95.5	119.9	3676.0	8496.3
37005243820000	-79.53065	40.6871	32.8	1169.2	20.3	49.6	70.5	98.0	124.2	3403.9	8070.5
37005243830000	-79.53514	40.6608	26.8	932.7	19.1	44.2	64.6	87.9	111.2	4015.6	9022.8
37005243910000	-79.23326	40.8108	32.9	1139.0	21.0	50.3	70.6	100.0	127.0	3373.7	7701.2
37005243920000	-79.40171	40.8029	25.4	951.6	17.3	40.5	59.7	81.6	102.4	4392.4	9948.0
37005243930000	-79.53041	40.5530	32.6	1111.0	21.2	50.4	70.8	100.3	127.4	3365.8	7642.7

37005244000000	-79.31176	40.8251	35.1	1180.8	22.1	54.7	76.6	108.1	136.7	3079.7	7240.2
37005244010000	-79.33286	40.9473	25.7	970.5	17.2	41.3	60.5	82.8	103.5	4313.4	9957.9
37005244020000	-79.32939	40.9482	27.3	968.0	18.9	45.4	65.8	90.4	113.3	3857.8	9088.0
37005244050000	-79.39460	40.8250	20.2	783.3	14.4	32.6	49.9	66.9	83.3	5623.4	11744.0
37005244060000	-79.57887	40.6355	25.1	885.8	18.1	41.6	61.5	83.2	104.9	4293.5	9609.5
37005244090000	-79.37385	40.9112	29.5	1051.6	19.5	48.3	68.6	94.9	119.0	3613.2	8743.5
37005244100000	-79.37005	40.9110	29.4	1100.3	18.5	46.1	65.7	91.1	114.2	3797.4	9150.6
37005244140000	-79.52307	40.6606	40.2	1189.0	26.3	64.1	88.4	124.5	158.8	2819.3	5594.7
37005244150000	-79.25505	40.7711	31.7	1133.9	20.1	48.2	68.7	95.7	121.4	3513.3	8197.2
37005244160000	-79.25866	40.7746	30.3	1152.5	18.5	44.6	64.1	89.1	112.8	3929.9	8979.3
37005244170000	-79.37241	40.9136	31.8	1094.2	20.8	51.8	73.0	101.5	127.5	3391.3	8087.9
37005244180000	-79.53144	40.6535	29.8	944.3	22.0	51.0	73.3	100.4	127.4	3321.4	7620.4
37005244190000	-79.45380	40.8368	31.6	1123.5	20.1	50.0	70.8	99.0	124.3	3517.6	8292.8
37005244200000	-79.40954	40.8904	30.6	1085.7	19.9	49.6	69.7	96.9	121.6	3521.6	8578.9
37005244210000	-79.40900	40.8934	31.4	1109.8	20.2	50.7	70.9	99.0	124.2	3449.3	8397.2
37005244230000	-79.32414	40.9259	21.3	1060.1	11.6	28.4	43.8	59.4	73.4	6397.0	12697.1
37005244240000	-79.33496	40.9447	24.7	864.1	18.2	42.8	62.7	85.1	106.5	4175.6	9651.4
37005244270000	-79.43561	40.8552	28.0	1064.1	17.9	44.2	63.6	87.8	109.8	4022.6	9488.8
37005244280000	-79.43022	40.8564	28.5	1057.1	18.5	45.5	65.3	90.2	112.9	3859.3	9227.0
37005244300000	-79.32396	40.9531	26.1	963.8	17.8	42.7	62.3	85.3	106.8	4159.8	9672.6
37005244310000	-79.52595	40.6590	34.8	1157.9	22.3	54.1	76.1	106.1	135.0	3126.8	7171.3
37005244350000	-79.39603	40.7863	30.3	1068.9	20.0	47.9	68.7	95.0	120.1	3617.1	8383.4
37005244380000	-79.48120	40.6021	28.0	1100.6	17.2	41.1	59.8	82.7	104.5	4324.0	9731.1
37005244400000	-79.52802	40.6643	27.2	960.7	19.0	44.1	64.3	87.7	110.9	4028.5	9061.2
37005244420000	-79.44464	40.7572	31.3	1101.9	20.3	49.2	70.1	97.6	123.2	3499.3	8189.8
37005244430000	-79.44861	40.7586	29.8	1113.1	18.7	45.5	65.4	90.9	114.5	3876.1	8944.6
37005244450000	-79.42100	40.7589	30.4	1162.5	18.5	45.4	65.0	90.6	114.1	3888.8	9006.0
37005244480000	-79.27995	40.9032	35.7	1222.6	21.8	54.5	76.1	107.9	136.2	3083.2	7349.2
37005244500000	-79.38284	40.8418	21.5	793.1	15.8	36.1	54.3	73.4	91.5	5004.9	10962.5
37005244520000	-79.34030	40.9229	25.6	922.0	18.0	42.6	62.4	85.2	106.7	4165.4	9644.4
37005244570000	-79.53662	40.5582	30.9	1111.9	19.7	46.9	66.7	93.7	118.8	3617.8	8386.6
37005244590000	-79.44466	40.7983	32.6	1030.2	22.9	55.4	78.2	109.5	138.0	3037.6	7144.5
37005244620000	-79.46375	40.7548	31.0	1164.3	18.9	46.4	66.3	92.4	116.6	3800.3	8767.0
37005244640000	-79.23055	40.8005	29.8	1030.5	20.2	47.2	66.9	94.4	119.8	3592.8	8231.9
37005244670000	-79.44827	40.8013	28.0	1015.6	18.7	45.1	65.1	90.2	113.2	3891.8	9099.6

37005244750000	-79.38889	40.7024	30.8	1144.8	19.0	45.9	65.8	91.3	115.7	3778.5	8726.3
37005244770000	-79.29329	40.9194	25.0	965.3	16.6	39.6	58.4	80.2	100.2	4488.9	10231.8
37005244790000	-79.53181	40.6726	27.4	1015.9	18.1	42.6	62.1	84.9	107.4	4185.4	9421.5
37005244800000	-79.46492	40.7775	30.6	1129.3	19.1	47.1	67.2	94.1	118.3	3740.3	8709.3
37005244820000	-79.46483	40.7944	28.4	1134.2	17.1	42.2	61.0	85.1	106.7	4169.3	9720.1
37005244860000	-79.57053	40.7272	30.8	1144.5	19.0	47.1	67.1	94.1	118.2	3738.3	8733.8
37005244880000	-79.38248	40.8460	23.0	740.7	18.8	42.5	62.9	85.3	106.7	4164.4	9487.5
37005244910000	-79.33764	40.9520	23.9	960.1	15.5	37.2	55.3	75.1	93.6	4859.7	10869.4
37005244960000	-79.33265	40.9248	24.5	885.8	17.5	41.1	60.6	82.4	103.0	4338.8	9948.0
37005244970000	-79.42317	40.8269	17.8	845.8	10.4	24.0	38.7	51.1	62.9	7259.8	13559.8
37005244990000	-79.37925	40.9003	33.0	1143.9	21.0	52.5	73.7	103.2	129.7	3311.2	7930.7
37005245000000	-79.37970	40.9034	31.2	1136.9	19.6	49.0	69.2	96.5	121.1	3576.8	8596.8
37005245010000	-79.43129	40.7671	32.5	1107.0	21.2	51.8	73.4	102.8	129.7	3255.9	7724.4
37005245030000	-79.54708	40.7334	30.9	1153.7	19.0	47.1	67.0	94.1	118.1	3738.3	8747.9
37005245040000	-79.33645	40.9572	26.3	978.7	17.7	42.8	62.3	85.4	106.8	4158.7	9687.4
37005245050000	-79.51433	40.6711	29.1	975.4	20.6	48.1	69.3	94.9	120.3	3539.5	8225.3
37005245060000	-79.55951	40.6790	32.5	1065.9	22.1	52.6	74.6	103.2	131.1	3221.3	7410.9
37005245080000	-79.45878	40.8018	29.0	1052.5	19.0	46.1	66.3	92.2	115.8	3822.2	8862.2
37005245100000	-79.28880	40.9484	29.7	979.3	21.1	50.8	72.6	100.5	126.3	3450.4	8015.1
37005245120000	-79.40560	40.7819	31.3	1144.8	19.5	47.7	68.0	94.7	119.6	3652.7	8498.2
37005245130000	-79.45199	40.7959	31.2	1131.7	19.6	48.3	68.7	96.4	121.1	3653.9	8472.6
37005245150000	-79.42971	40.8026	29.8	1115.9	18.7	45.9	65.7	91.8	115.3	3837.8	8939.4
37005245170000	-79.46859	40.7915	28.6	1105.5	17.7	43.6	62.8	87.6	109.7	4029.6	9442.1
37005245190000	-79.43274	40.8174	30.4	1115.0	19.2	47.0	67.2	93.9	118.1	3749.2	8691.8
37005245200000	-79.52494	40.6688	25.6	924.5	18.0	41.5	61.1	82.8	104.6	4314.2	9644.8
37005245240000	-79.47371	40.5431	32.0	1152.1	19.9	47.4	65.6	95.5	121.2	3586.2	8126.3
37005245270000	-79.46436	40.5610	36.1	1172.9	23.1	55.1	74.9	110.2	140.1	3203.9	6613.8
37005245350000	-79.41289	40.7471	31.5	1117.7	20.2	49.0	69.8	97.1	122.7	3504.6	8216.0
37005245360000	-79.40892	40.7485	30.7	1143.0	19.0	46.5	66.5	92.4	116.6	3789.7	8739.0
37005245370000	-79.42863	40.8593	27.1	1075.9	16.8	41.6	60.3	83.1	103.8	4298.7	10022.3
37005245380000	-79.43556	40.8191	15.8	786.4	8.7	19.8	33.4	43.4	52.9	8020.1	14315.8
37005245390000	-79.33397	40.8377	31.5	1118.6	20.2	49.7	70.4	98.9	124.3	3521.0	8224.6
37005245400000	-79.46841	40.7954	31.6	1126.5	20.1	49.6	70.4	98.8	124.2	3525.6	8238.4
37005245410000	-79.29594	40.9982	27.8	1048.2	18.0	44.7	63.5	87.7	109.7	4029.4	9558.0
37005245420000	-79.37190	40.9091	29.6	1051.9	19.5	48.2	68.7	94.9	119.0	3617.6	8731.7

37005245430000	-79.36184	40.7448	34.2	1108.9	22.7	54.7	77.1	107.1	136.2	3096.9	7067.4
37005245480000	-79.41632	40.7360	34.3	1161.9	21.8	53.1	75.0	104.4	132.6	3180.0	7398.3
37005245490000	-79.38655	40.7441	32.0	1154.3	19.9	48.5	69.2	95.9	121.5	3493.5	8276.3
37005245530000	-79.51891	40.6133	32.1	1164.3	19.9	48.3	68.8	95.5	121.0	3504.9	8293.0
37005245570000	-79.40267	40.8980	31.2	1134.8	19.6	49.2	69.2	96.5	121.0	3542.9	8645.1
37005245580000	-79.28855	40.9534	32.8	1130.8	21.1	52.2	73.6	103.5	130.1	3289.3	7815.2
37005245610000	-79.41627	40.8165	23.4	845.2	17.0	39.0	58.0	78.8	98.8	4585.7	10242.2
37005245630000	-79.51549	40.6149	32.7	1165.0	20.3	49.5	70.3	97.7	123.9	3411.0	8061.9
37005245640000	-79.41470	40.7529	28.9	1087.5	18.3	44.4	64.1	88.7	111.6	3974.5	9178.2
37005245650000	-79.30145	40.9981	28.8	1075.9	18.4	45.9	65.0	90.0	112.7	3877.5	9319.5
37005245660000	-79.50663	40.6753	27.0	944.9	19.0	44.3	64.7	88.0	111.3	4007.4	9038.1
37005245680000	-79.29927	40.9627	31.1	1129.9	19.6	48.9	69.3	96.6	121.3	3587.2	8561.7
37005245690000	-79.42200	40.8144	21.1	920.5	13.1	30.7	47.2	63.6	79.1	5977.2	12193.4
37005245700000	-79.46448	40.8448	32.6	1117.4	21.2	52.8	74.2	103.5	130.1	3295.5	7897.8
37005245720000	-79.34793	40.8223	36.2	1132.3	24.0	59.0	82.2	116.1	146.8	2855.5	6563.8
37005245750000	-79.45837	40.7938	31.3	1142.4	19.5	48.2	68.5	96.2	121.0	3659.8	8487.5
37005245760000	-79.50891	40.6109	31.0	1120.4	19.7	47.3	67.7	93.6	118.7	3623.9	8460.6
37005245770000	-79.37222	40.7409	33.9	1175.3	21.2	51.7	73.0	101.8	129.2	3267.3	7636.3
37005245780000	-79.50389	40.6153	34.6	1179.9	21.7	52.8	74.4	103.7	131.8	3199.9	7432.1
37005245800000	-79.50972	40.6739	30.2	979.3	21.7	50.7	72.7	99.8	126.6	3341.0	7704.3
37005245810000	-79.27723	40.9304	28.7	947.9	20.8	49.3	70.8	98.0	123.2	3574.1	8189.8
37005245820000	-79.40318	40.8149	21.1	839.1	14.4	32.9	50.2	67.6	84.3	5564.1	11670.1
37005245840000	-79.40339	40.8110	25.4	867.8	18.8	43.4	63.7	86.8	109.2	4074.4	9247.7
37005245850000	-79.29338	40.7063	31.0	1118.0	19.7	46.4	64.6	93.6	118.7	3653.1	8337.1
37005245870000	-79.33652	40.9608	23.4	1051.9	13.7	33.7	50.5	68.8	85.4	5475.1	11658.1
37005245880000	-79.34023	40.9608	31.2	1051.9	21.1	51.9	73.5	102.1	128.3	3368.3	7961.4
37005245900000	-79.51837	40.7539	28.9	1127.8	17.6	43.5	62.7	87.6	109.7	4029.4	9461.8
37005245910000	-79.41793	40.8348	21.6	838.2	15.0	34.7	52.4	70.9	88.3	5239.6	11282.0
37005245920000	-79.46083	40.7873	30.3	1111.9	19.2	47.2	67.4	94.4	118.5	3727.9	8690.1
37005245930000	-79.30107	40.9156	30.9	1030.5	21.3	51.5	73.2	102.2	128.6	3343.6	7831.0
37005245950000	-79.47305	40.7866	30.0	1086.9	19.3	47.4	67.7	94.6	118.8	3714.1	8660.0
37005245960000	-79.47079	40.7889	31.7	1128.1	20.1	49.6	70.3	98.8	124.2	3526.1	8239.9
37005245990000	-79.53937	40.6792	33.8	1122.3	22.1	53.4	75.5	104.8	133.2	3166.8	7311.6
37005246020000	-79.44287	40.8537	33.0	1061.3	22.6	55.8	78.3	109.0	137.2	3015.7	7334.9
37005246060000	-79.48971	40.7712	24.6	890.3	17.5	40.8	60.2	82.3	103.0	4346.5	9903.3

37005246110000	-79.33514	40.7294	32.2	1127.8	20.6	49.8	70.8	98.1	124.4	3394.0	7995.8
37005246120000	-79.49597	40.6073	31.6	1123.8	20.1	48.4	69.0	95.8	121.5	3498.6	8209.4
37005246130000	-79.23796	40.8289	39.8	1158.9	26.6	64.5	89.2	125.3	159.9	2803.1	5550.5
37005246140000	-79.34011	40.8787	31.1	1040.6	21.2	51.3	72.9	101.8	128.2	3346.8	7838.8
37005246160000	-79.23941	40.8262	37.1	1159.5	24.2	58.7	81.8	114.6	146.0	2930.1	6384.4
37005246170000	-79.24510	40.8292	30.7	1138.4	19.1	46.0	66.0	91.3	115.7	3778.8	8736.9
37005246180000	-79.26766	40.9345	29.2	1065.6	18.9	45.9	66.1	91.8	115.4	3836.2	8880.6
37005246190000	-79.26737	40.9372	31.2	1092.7	20.3	49.6	70.6	98.6	124.2	3502.4	8172.2
37005246200000	-79.51945	40.7450	25.0	919.3	17.4	40.8	60.1	82.3	103.1	4344.0	9919.2
37005246210000	-79.46294	40.7908	29.6	1096.1	18.8	46.0	66.0	92.1	115.6	3820.5	8917.2
37005246220000	-79.55609	40.6799	26.4	1062.2	16.3	38.9	57.4	78.3	98.6	4620.8	10317.0
37005246290000	-79.37690	40.8329	21.8	777.9	16.5	37.5	56.2	76.1	95.0	4787.5	10603.2
37005246300000	-79.43085	40.8502	28.1	1070.5	17.9	44.0	63.5	87.8	109.9	4020.0	9466.4
37005246320000	-79.43293	40.8479	28.8	1081.7	18.3	45.2	65.0	90.1	112.9	3871.8	9206.5
37005246330000	-79.46574	40.7978	31.9	1102.8	20.8	51.0	72.2	101.4	127.5	3388.0	7968.9
37005246340000	-79.45520	40.6030	27.4	1060.1	17.4	40.8	58.4	82.7	104.6	4321.8	9673.5
37005246390000	-79.49246	40.6141	34.9	1204.3	21.5	52.6	73.9	103.3	131.3	3216.0	7473.3
37005246420000	-79.46691	40.7838	32.3	1091.2	21.4	52.4	74.0	103.8	130.7	3253.5	7719.1
37005246470000	-79.39214	40.7260	33.4	1090.0	22.4	53.6	75.9	105.1	133.6	3156.7	7239.2
37005246480000	-79.51817	40.5443	28.3	1126.2	17.2	40.8	58.3	82.7	104.6	4321.6	9715.8
37005246490000	-79.51133	40.5452	30.8	1062.2	20.5	48.2	68.3	96.3	122.2	3518.7	8039.0
37005246500000	-79.51502	40.5441	27.8	1043.3	18.0	42.2	61.2	84.9	107.5	4182.2	9395.6
37005246530000	-79.23651	40.8110	34.4	1123.5	22.6	53.8	75.0	106.7	135.8	3158.9	7000.2
37005246540000	-79.47278	40.7919	29.8	1155.2	18.0	44.7	64.1	89.8	112.5	3914.0	9238.8
37005246550000	-79.45960	40.7898	33.3	1128.4	21.6	53.2	74.8	105.4	132.8	3166.9	7564.3
37005246560000	-79.23959	40.8370	35.1	1134.8	23.0	55.7	78.3	109.0	138.6	3031.1	6923.1
37005246570000	-79.52271	40.6558	34.4	1209.5	21.0	51.4	72.4	101.2	128.6	3290.5	7690.8
37005246580000	-79.52204	40.5427	35.8	1022.6	26.2	61.3	85.5	120.2	153.3	2941.4	5819.7
37005246600000	-79.53380	40.7432	26.8	891.2	20.0	46.8	67.8	93.3	117.1	3762.6	8669.7
37005246630000	-79.44593	40.8228	30.5	1041.8	20.7	50.3	71.6	99.9	125.5	3483.2	8111.3
37005246660000	-79.49197	40.5399	32.3	1130.8	20.6	48.7	67.4	97.9	124.3	3483.3	7865.0
37005246670000	-79.50680	40.5385	25.4	951.9	17.3	39.7	58.0	80.3	101.5	4479.2	9935.0
37005246680000	-79.50928	40.5426	29.4	1037.2	19.6	46.0	65.8	91.9	116.6	3712.4	8533.8
37005246690000	-79.51889	40.5427	27.0	1024.1	17.5	41.0	59.8	82.7	104.5	4323.1	9676.4
37005246710000	-79.53601	40.7396	33.5	1140.6	21.5	53.3	74.9	105.6	132.8	3160.2	7617.0

37005246740000	-79.51363	40.7582	23.6	902.2	16.2	38.0	56.5	77.0	96.2	4714.3	10560.8
37005246760000	-79.40784	40.7516	34.6	1136.9	22.5	54.9	77.1	107.9	136.7	3075.9	7145.9
37005246780000	-79.32177	40.6739	36.3	1100.0	24.8	58.4	79.4	115.9	147.7	3088.0	6101.9
37005246810000	-79.49503	40.5348	34.5	1219.2	20.9	50.5	69.3	101.2	128.6	3357.5	7579.2
37005246820000	-79.28432	40.9901	31.4	1153.7	19.5	49.1	68.9	96.3	120.8	3546.6	8676.0
37005246830000	-79.37504	40.7767	28.4	923.5	21.0	48.4	69.9	95.5	121.1	3509.2	8118.7
37005246850000	-79.48931	40.6159	33.2	1161.6	20.8	50.6	71.6	99.7	126.6	3345.0	7819.4
37005246910000	-79.53856	40.6559	24.4	917.5	16.8	38.7	57.5	77.7	98.0	4660.2	10300.8
37005246920000	-79.46403	40.8412	32.0	1111.6	20.7	51.6	72.7	101.3	127.3	3408.1	8096.2
37005246930000	-79.29982	41.0006	27.3	1048.2	17.4	43.4	61.9	85.4	106.7	4164.5	9827.6
37005246940000	-79.30623	40.9151	37.1	1037.5	27.1	65.8	91.3	128.6	162.7	2607.9	5631.3
37005246970000	-79.49975	40.6152	35.2	1187.8	22.1	53.9	75.6	105.7	134.3	3137.3	7240.0
37005246980000	-79.47603	40.7917	29.1	1105.2	18.2	44.9	64.5	90.0	112.8	3903.0	9189.5
37005247030000	-79.39967	40.9047	31.0	1119.5	19.7	49.4	69.3	96.6	121.1	3523.9	8640.5
37005247040000	-79.46119	40.8129	30.7	1052.5	20.6	50.5	71.7	99.7	125.3	3491.5	8169.7
37005247070000	-79.55861	40.6729	36.1	1211.9	22.3	54.8	76.6	107.4	136.5	3077.5	7096.2
37005247090000	-79.56330	40.6733	31.1	1172.0	18.9	46.0	65.8	91.2	115.5	3792.8	8784.3
37005247100000	-79.36452	40.9139	31.6	1081.1	20.9	51.9	73.1	101.7	127.7	3388.9	8056.8
37005247120000	-79.45220	40.7897	28.4	1131.1	17.1	42.2	61.1	85.2	106.7	4167.5	9718.8
37005247180000	-79.37637	40.7250	32.7	1118.3	21.2	51.0	72.5	100.4	127.4	3317.3	7746.8
37005247190000	-79.43383	40.8111	29.4	1123.8	18.1	44.6	64.1	89.6	112.4	3926.2	9199.4
37005247200000	-79.40206	40.7220	30.8	1143.9	19.0	46.1	66.0	91.3	115.6	3781.5	8747.7
37005247210000	-79.40459	40.7430	31.8	1135.7	20.1	48.8	69.5	96.6	122.2	3504.3	8245.7
37005247220000	-79.43821	40.8536	30.8	1063.5	20.5	50.6	71.7	99.6	125.0	3474.4	8230.5
37005247230000	-79.42375	40.8605	30.1	1093.3	19.3	47.9	68.2	94.6	118.7	3644.7	8762.4
37005247240000	-79.42809	40.8533	29.5	1044.9	19.6	48.1	68.6	95.0	119.1	3638.4	8688.5
37005247250000	-79.43203	40.8540	30.6	1044.2	20.7	50.8	72.0	99.8	125.3	3463.2	8204.8
37005247300000	-79.48179	40.7895	27.1	1115.6	16.2	40.0	58.3	80.9	101.1	4439.1	10244.9
37005247310000	-79.43364	40.8080	26.3	1097.3	15.7	38.5	56.6	78.3	97.8	4622.1	10511.9
37005247320000	-79.34289	40.6699	33.2	1116.8	21.7	51.1	70.3	102.4	130.1	3315.5	7362.3
37005247330000	-79.34667	40.6705	34.5	1134.2	22.5	53.3	72.9	106.5	135.4	3202.5	6959.6
37005247340000	-79.34946	40.6685	36.0	1117.7	24.1	57.0	77.5	113.3	144.3	3159.9	6323.1
37005247370000	-79.42307	40.7162	30.7	1143.0	19.0	46.0	66.0	91.3	115.6	3780.6	8743.9
37005247390000	-79.46152	40.9586	32.8	1088.1	21.9	54.8	76.0	106.2	133.4	3173.8	7709.5
37005247400000	-79.52379	40.6643	31.1	1168.3	18.9	46.0	65.8	91.2	115.4	3790.4	8779.4

37005247450000	-79.45408	40.8574	24.9	1116.8	14.2	35.4	52.3	71.8	89.2	5188.1	11340.0
37005247470000	-79.52987	40.6481	22.7	955.2	14.3	33.3	50.5	67.9	85.2	5509.9	11617.2
37005247480000	-79.52622	40.6492	24.0	1008.0	14.9	34.9	52.3	70.7	88.9	5236.5	11260.2
37005247520000	-79.28321	40.7599	35.6	1127.8	23.5	56.6	79.3	111.0	141.3	3012.0	6662.9
37005247550000	-79.41510	40.8816	29.6	1100.0	18.8	46.9	66.4	92.2	115.5	3723.9	9080.2
37005247570000	-79.29257	40.9995	27.2	1087.2	16.8	42.0	60.1	83.0	103.7	4304.7	10095.5
37005247580000	-79.24755	41.0022	31.5	1117.1	20.2	50.3	71.0	99.0	124.3	3486.8	8338.3
37005247600000	-79.46745	40.7803	36.3	1143.0	23.9	59.1	82.1	116.3	146.9	2852.7	6599.5
37005247630000	-79.44065	40.8151	21.0	757.7	15.8	35.8	54.1	72.9	90.9	5046.2	10998.5
37005247650000	-79.40397	40.8194	23.8	914.4	16.2	37.8	56.3	76.7	96.0	4737.5	10568.4
37005247670000	-79.28883	40.9992	27.1	1075.6	16.8	42.0	60.2	83.0	103.7	4304.6	10083.7
37005247680000	-79.29130	40.9969	25.8	1104.9	15.2	38.1	55.3	76.2	94.9	4808.1	10862.8
37005247690000	-79.29239	40.9923	30.5	1083.9	19.9	49.7	69.7	96.9	121.6	3506.2	8596.1
37005247700000	-79.31484	40.9666	30.1	1054.3	20.1	49.4	70.2	97.3	122.1	3552.7	8461.3
37005247750000	-79.24985	40.7683	33.9	1128.7	22.1	52.6	73.5	104.4	132.8	3214.8	7227.4
37005247790000	-79.34850	40.7863	28.5	1097.3	17.8	42.7	62.1	85.3	107.7	4162.9	9475.9
37005247800000	-79.51261	40.6613	36.5	1158.2	23.7	57.7	80.6	112.7	143.4	2948.6	6587.5
37005247820000	-79.35773	40.7438	32.2	1129.9	20.6	49.7	70.7	98.0	124.3	3397.6	7999.4
37005247870000	-79.43483	40.8507	29.1	1060.7	19.0	46.7	66.8	92.5	116.0	3748.2	8949.1
37005247890000	-79.52735	40.5512	27.8	1127.8	16.7	39.7	57.2	80.5	101.7	4466.0	10005.6
37005247930000	-79.45506	40.8076	30.3	1108.9	19.2	47.2	67.4	94.3	118.5	3730.0	8684.2
37005248000000	-79.42326	40.8633	29.1	1099.4	18.3	45.4	65.0	90.0	112.7	3871.1	9275.7
37005248020000	-79.62234	40.6525	28.7	1116.5	17.7	42.8	62.1	85.5	107.8	4152.3	9486.5
37005248030000	-79.43256	40.7985	32.9	1180.5	20.2	50.3	70.9	99.9	125.9	3426.5	8095.9
37005248100000	-79.53316	40.5814	31.1	1125.9	19.6	47.1	67.4	93.6	118.6	3604.4	8448.1
37005248110000	-79.52039	40.6203	31.4	1147.0	19.5	47.2	67.5	93.5	118.5	3642.3	8505.0
37005248130000	-79.46108	40.7930	29.5	1130.8	18.1	44.6	64.1	89.6	112.4	3926.8	9205.9
37005248150000	-79.47463	40.6122	30.1	1179.6	17.9	43.4	62.5	86.9	110.0	4068.4	9256.6
37005248170000	-79.47636	40.6639	29.6	1053.7	19.5	46.4	67.0	92.0	116.5	3752.8	8625.6
37005248180000	-79.40576	40.7385	29.9	1119.2	18.7	45.2	65.2	90.0	113.6	3917.0	8963.3
37005248240000	-79.54150	40.7434	31.4	1061.9	21.1	51.5	73.1	102.0	128.3	3367.7	7922.1
37005248270000	-79.41636	40.6578	32.1	1120.8	20.6	49.3	70.0	98.0	124.4	3438.4	7920.1
37005248280000	-79.44225	40.6544	29.9	1080.5	19.4	46.0	66.2	91.6	116.1	3755.6	8630.8
37005248310000	-79.29057	41.0019	31.6	1084.2	20.9	52.2	72.9	101.6	127.5	3359.2	8129.6
37005248350000	-79.52009	40.6588	37.8	1215.5	23.7	58.1	80.7	113.5	144.5	2932.1	6530.8

37005248360000	-79.48327	40.5949	28.3	1129.3	17.1	40.9	58.8	82.7	104.6	4321.8	9727.6
37005248370000	-79.48552	40.5926	31.7	1132.3	20.1	47.9	67.5	95.7	121.5	3539.3	8154.4
37005248380000	-79.44944	40.6025	31.9	1060.4	21.6	50.5	69.7	101.0	128.3	3366.5	7482.9
37005248390000	-79.49252	40.6291	28.3	1079.3	17.8	42.7	62.2	85.3	107.7	4162.0	9462.4
37005248400000	-79.49670	40.6222	29.5	1088.1	18.8	45.2	65.3	89.7	113.5	3917.8	8931.4
37005248410000	-79.52625	40.7337	30.0	1082.0	19.4	47.3	67.7	94.5	118.7	3722.2	8647.7
37005248450000	-79.42625	40.8650	31.3	1099.4	20.3	50.5	71.3	99.2	124.5	3473.9	8320.7
37005248500000	-79.40231	40.6719	34.7	1149.4	22.4	53.8	75.3	106.3	135.2	3147.1	7079.3
37005248510000	-79.51550	40.6580	31.7	1172.3	19.4	47.1	67.3	93.3	118.3	3653.8	8542.6
37005248520000	-79.48534	40.5895	27.8	1089.7	17.3	40.9	58.9	82.6	104.5	4324.9	9706.9
37005248530000	-79.43825	40.8089	28.5	1101.2	17.7	43.5	62.8	87.5	109.7	4032.7	9436.9
37005248540000	-79.39201	40.9234	33.0	1146.4	21.0	52.9	73.5	103.0	129.4	3317.2	8020.5
37005248550000	-79.38258	40.7915	27.6	1113.1	16.7	40.3	59.0	80.9	101.9	4440.0	10033.7
37005248560000	-79.28523	40.9991	27.3	1089.7	16.8	42.0	60.1	83.0	103.7	4304.0	10090.4
37005248570000	-79.28329	40.9963	28.7	1109.8	17.7	44.4	63.2	87.6	109.6	4035.2	9584.1
37005248580000	-79.43185	40.8591	32.5	1062.2	22.1	54.5	76.6	106.7	134.1	3142.4	7556.2
37005248590000	-79.28804	41.0041	33.2	1071.7	22.5	56.2	77.8	108.8	136.7	3054.1	7464.8
37005248630000	-79.27241	40.9724	29.5	1129.6	18.1	45.3	64.7	89.9	112.5	3877.2	9294.4
37005248640000	-79.43130	40.8063	32.3	1135.1	20.5	50.6	71.6	100.7	126.8	3401.5	8014.1
37005248670000	-79.52009	40.6645	37.8	1170.4	24.6	59.8	83.2	116.5	148.5	2909.4	6252.8
37005248680000	-79.48992	40.5842	27.2	1083.3	16.8	39.6	57.2	80.4	101.6	4474.7	9992.0
37005248690000	-79.49172	40.5820	26.3	1098.2	15.7	37.2	53.9	76.0	95.9	4797.8	10581.6
37005248700000	-79.48623	40.5838	26.5	1074.1	16.3	38.3	55.5	78.1	98.7	4635.5	10283.1
37005248710000	-79.48281	40.5826	25.0	1088.8	14.7	34.7	50.7	71.4	90.0	5182.9	11188.9
37005248730000	-79.47922	40.6069	30.6	1129.3	19.1	45.8	65.8	91.4	115.8	3770.5	8687.3
37005248740000	-79.39288	40.8188	31.3	1055.5	21.1	50.9	72.5	101.1	127.5	3332.4	7856.2
37005248750000	-79.44775	40.8563	34.1	1042.4	24.1	59.4	82.8	115.3	145.3	2831.3	6788.5
37005248760000	-79.44881	40.8071	27.5	1104.0	16.7	41.0	59.6	82.8	103.6	4316.1	9971.2
37005248780000	-79.53263	40.8629	26.1	1045.5	16.4	40.6	58.6	80.6	100.6	4460.1	10332.4
37005248800000	-79.42833	40.8622	29.9	1075.9	19.4	48.1	68.4	94.7	118.8	3629.5	8754.2
37005248810000	-79.43149	40.8639	29.6	1097.6	18.8	46.7	66.6	92.3	115.6	3736.1	9030.2
37005248820000	-79.39267	40.6929	30.9	1112.2	19.7	47.1	67.4	93.7	118.8	3604.8	8415.7
37005248840000	-79.44224	40.8605	28.4	1088.1	17.8	44.3	63.5	87.7	109.7	4028.6	9536.4
37005248850000	-79.50587	40.8586	29.5	1009.2	20.4	50.2	70.5	97.6	122.4	3467.6	8505.5
37005248860000	-79.46610	40.8181	35.5	1121.7	23.6	58.8	81.7	114.8	144.7	2857.7	6845.4

37005248890000	-79.47856	40.7866	28.1	1071.1	17.9	43.7	63.2	87.8	110.0	4016.4	9422.5
37005248900000	-79.48822	40.5904	28.7	1070.2	18.4	43.3	62.2	87.1	110.3	4053.6	9130.0
37005248930000	-79.46168	40.8154	28.6	1108.0	17.7	43.9	63.2	87.7	109.8	4021.8	9480.2
37005248940000	-79.43220	40.7922	31.7	1174.1	19.3	48.1	68.2	96.0	120.7	3668.6	8536.0
37005248960000	-79.43980	40.8629	37.3	1130.8	25.0	62.7	86.3	121.3	152.9	2677.6	6385.0
37005248970000	-79.46538	40.8155	32.4	1143.0	20.5	51.1	72.1	101.0	126.9	3421.1	8101.4
37005248980000	-79.46023	40.8576	34.0	1134.8	22.0	55.1	76.9	107.8	135.6	3076.5	7492.8
37005249020000	-79.51473	40.8563	30.0	1003.1	20.9	51.7	72.3	100.2	125.7	3386.0	8255.0
37005249040000	-79.52314	40.8631	29.0	1097.6	18.3	45.7	64.8	89.9	112.6	3882.1	9331.0
37005249060000	-79.45951	40.8546	29.0	1134.5	17.6	44.0	63.1	87.6	109.6	4030.3	9539.3
37005249070000	-79.43951	40.8059	26.2	1093.9	15.7	38.5	56.5	78.2	97.7	4631.4	10515.8
37005249090000	-79.51191	40.7429	27.2	916.8	19.8	46.4	67.3	92.5	116.4	3806.6	8692.3
37005249100000	-79.30339	40.6869	30.8	1107.6	19.7	46.3	64.5	93.7	118.8	3670.3	8297.1
37005249120000	-79.53066	40.6442	26.9	1100.9	16.2	39.0	57.5	78.5	98.9	4604.4	10315.8
37005249170000	-79.29710	41.0031	34.2	1110.7	22.7	57.3	78.6	110.3	138.7	2987.7	7386.9
37005249190000	-79.35749	40.6825	33.4	1088.1	22.4	52.8	73.2	105.0	133.6	3213.8	7115.6
37005249200000	-79.34566	40.6847	30.7	1098.8	19.8	46.8	65.9	93.7	119.0	3626.9	8340.4
37005249330000	-79.52724	40.7361	25.6	1006.5	16.5	39.7	58.3	80.3	100.4	4478.1	10230.3
37005249360000	-79.28332	40.9816	29.4	1101.2	18.5	46.2	65.7	91.1	114.1	3797.4	9182.7
37005249390000	-79.45241	40.6007	29.8	1029.6	20.2	47.1	66.2	94.4	119.9	3603.0	8206.2
37005249430000	-79.51094	40.8601	26.5	952.5	18.4	45.0	64.1	87.9	109.9	4022.8	9508.3
37005249440000	-79.47530	40.7843	29.4	1080.2	18.9	46.2	66.2	92.4	115.9	3805.5	8904.0
37005249480000	-79.54081	40.7407	33.5	1057.1	23.2	56.7	79.6	111.6	140.6	2972.2	7019.2
37005249500000	-79.24167	40.8300	34.7	1104.0	23.3	55.8	78.5	109.2	139.0	3035.4	6838.1
37005249520000	-79.40028	40.8059	26.2	849.5	20.3	46.5	67.7	92.6	116.7	3805.8	8573.2
37005249540000	-79.52739	40.6453	30.8	1147.0	19.0	46.1	66.1	91.5	115.8	3783.8	8750.5
37005249570000	-79.48821	40.5814	28.9	1126.2	17.6	41.8	59.3	84.8	107.4	4185.0	9426.1
37005249580000	-79.48488	40.5802	31.5	1158.9	19.4	46.3	64.3	93.4	118.4	3663.9	8393.3
37005249590000	-79.48137	40.5798	29.4	1127.5	18.1	42.9	60.3	87.0	110.2	4055.6	9140.4
37005249610000	-79.52195	40.5463	33.1	1108.3	21.7	51.5	71.9	102.5	130.3	3293.2	7397.2
37005249620000	-79.53513	40.6326	30.6	1127.8	19.1	46.1	66.2	91.4	115.8	3775.9	8725.8
37005249630000	-79.54078	40.7459	29.8	1029.3	20.2	49.1	70.3	97.5	122.5	3583.3	8353.2
37005249640000	-79.30024	40.9045	20.5	840.0	13.7	31.6	48.6	65.3	81.1	5805.4	11973.0
37005249650000	-79.45369	40.8054	32.7	1037.8	22.8	55.4	78.1	109.4	137.9	3037.2	7165.7
37005249670000	-79.50370	40.7449	24.4	916.5	16.8	39.2	58.1	79.3	99.3	4547.5	10242.1

37005249710000	-79.26576	40.9929	25.8	977.5	17.2	41.8	60.6	82.8	103.5	4314.4	10026.3
37005249720000	-79.37609	40.9001	30.3	1109.2	19.2	47.9	68.0	94.5	118.5	3644.0	8790.4
37005249750000	-79.29058	41.0047	29.0	1054.6	19.0	47.4	66.7	92.5	115.8	3714.9	9070.7
37005249760000	-79.51640	40.6636	32.3	1173.5	19.8	48.3	68.6	95.3	120.9	3509.4	8308.0
37005249770000	-79.43618	40.8462	44.7	1513.3	23.6	61.6	83.0	121.1	152.7	2679.6	6495.2
37005249780000	-79.48225	40.7771	32.2	1084.8	21.4	52.4	74.0	103.8	130.7	3242.5	7702.8
37005249830000	-79.59500	40.8900	18.2	833.6	11.0	25.9	40.9	53.8	66.2	6887.2	13187.4
37005249840000	-79.48498	40.5869	27.5	1062.5	17.4	40.8	58.9	82.6	104.5	4324.9	9688.4
37005249870000	-79.33275	40.9534	25.5	997.3	16.5	40.1	58.8	80.4	100.4	4470.1	10264.2
37005249890000	-79.48523	40.7755	29.7	1062.2	19.5	47.5	68.0	94.8	119.0	3705.5	8627.1
37005249900000	-79.24155	40.9482	31.3	1097.3	20.3	49.6	70.5	98.5	124.1	3504.5	8178.7
37005249910000	-79.48243	40.7737	26.9	1057.7	16.9	41.1	59.9	82.9	103.7	4306.7	9953.1
37005249930000	-79.44604	40.8591	31.6	1082.0	20.9	52.0	73.1	101.7	127.7	3383.3	8071.2
37005249940000	-79.47441	40.8193	31.3	1097.9	20.3	50.6	71.3	99.2	124.5	3467.5	8329.7
37005249950000	-79.34018	40.6864	30.6	1091.2	19.8	46.7	65.8	93.8	119.0	3626.7	8325.5
37005249970000	-79.53221	40.7400	27.4	1012.6	18.1	43.7	63.4	87.8	110.0	4016.8	9372.2
37005250000000	-79.31412	40.6988	27.9	1091.2	17.3	40.8	58.7	82.6	104.5	4324.7	9703.6
37005250030000	-79.33351	40.9507	24.0	1007.4	14.9	36.0	53.6	73.1	91.0	5047.8	11128.6
37005250040000	-79.39493	40.9095	29.4	1120.8	18.2	45.7	64.6	89.8	112.4	3890.8	9364.2
37005250070000	-79.41447	40.6733	25.9	1068.3	15.8	37.4	55.4	75.8	95.6	4807.4	10608.1
37005250100000	-79.38871	40.7423	31.3	1142.1	19.5	47.4	67.9	94.0	118.9	3643.9	8496.0
37005250140000	-79.51137	40.7461	29.6	951.0	21.6	51.1	73.2	101.4	127.7	3361.3	7792.0
37005250180000	-79.28036	40.7619	36.8	1225.3	22.7	55.6	77.6	109.2	138.9	3049.3	6905.7
37005250250000	-79.27637	40.9976	25.7	1054.9	15.8	39.4	57.0	78.3	97.6	4622.4	10609.8
37005250260000	-79.27978	40.9995	29.9	1122.6	18.6	46.9	66.1	92.1	115.3	3734.0	9115.9
37005250300000	-79.28881	40.7671	36.4	1194.8	22.9	56.0	78.3	109.7	139.6	3028.6	6849.5
37005250310000	-79.32661	40.6889	30.5	1039.1	20.7	48.4	68.5	96.6	122.6	3507.6	7990.1
37005250330000	-79.45358	40.6076	28.7	1070.5	18.4	43.2	61.2	87.2	110.5	4047.6	9098.5
37005250340000	-79.34518	40.9258	23.4	926.9	15.5	37.0	55.2	74.8	93.2	4889.8	10891.8
37005250350000	-79.50568	40.6674	30.5	1125.0	19.1	46.2	66.5	91.7	116.1	3778.1	8719.9
37005250370000	-79.30886	40.9517	23.4	887.0	16.2	38.3	56.9	77.0	96.1	4713.6	10605.2
37005250380000	-79.25828	40.8333	35.1	1180.2	22.1	53.9	75.7	105.8	134.5	3136.5	7220.1
37005250410000	-79.32133	40.9830	31.3	1100.9	20.3	50.6	71.2	99.1	124.4	3462.9	8346.8
37005250420000	-79.32495	40.9846	29.6	1055.5	19.5	48.4	68.5	94.9	118.9	3609.6	8762.4
37005250430000	-79.50018	40.7783	28.2	1077.5	17.8	43.6	63.0	87.7	109.8	4023.8	9421.0

37005250470000	-79.26012	40.8391	33.5	1188.1	20.7	50.5	71.5	99.6	126.4	3342.0	7880.0
37005250480000	-79.25614	40.8213	31.0	1117.1	19.7	47.2	67.5	93.6	118.7	3600.6	8436.1
37005250490000	-79.28007	41.0093	28.7	1026.3	19.2	47.5	67.0	92.6	116.0	3704.5	9034.5
37005250540000	-79.54582	40.7385	30.5	1038.8	20.7	50.3	71.6	99.8	125.5	3479.7	8099.7
37005250570000	-79.36273	40.9176	33.2	1117.1	21.7	54.1	75.7	105.8	133.0	3182.1	7677.1
37005250580000	-79.44990	40.8045	30.6	1087.2	19.9	48.5	69.2	96.7	121.6	3636.4	8405.0
37005250610000	-79.55935	40.7275	22.9	930.9	14.9	35.2	52.9	72.0	89.7	5134.2	11195.1
37005250630000	-79.27851	40.7417	35.5	1349.4	19.7	48.8	67.4	97.7	124.1	3464.8	8062.1
37005250640000	-79.30478	40.9892	31.9	1101.6	20.8	51.9	72.7	101.4	127.3	3377.8	8137.2
37005250650000	-79.26956	40.7583	32.3	1177.8	19.8	47.8	67.8	95.3	121.0	3534.9	8252.1
37005250660000	-79.37043	40.9312	25.7	1010.4	16.5	40.6	58.7	80.5	100.4	4469.0	10343.0
37005250710000	-79.49513	40.5507	28.8	1118.9	17.7	41.7	58.8	84.8	107.3	4184.1	9406.7
37005250720000	-79.26895	40.7478	31.4	1150.0	19.5	46.6	65.8	93.4	118.5	3636.6	8425.0
37005250730000	-79.46213	40.8100	26.3	1058.6	16.4	40.1	58.6	80.7	100.8	4451.7	10256.1
37005250740000	-79.35643	40.9980	25.7	930.6	17.9	43.4	62.4	85.3	106.6	4167.4	9752.2
37005250760000	-79.37224	40.9368	27.7	995.2	18.8	46.2	65.5	90.3	113.0	3859.7	9261.6
37005250770000	-79.43555	40.8582	31.8	1052.8	21.7	53.4	75.2	104.4	131.3	3251.3	7764.9
37005250810000	-79.28958	41.0072	27.2	1043.0	17.5	43.5	61.9	85.4	106.6	4165.2	9834.3
37005250880000	-79.40332	40.7277	30.2	1142.1	18.6	45.0	64.7	89.4	113.1	3932.7	8995.4
37005250930000	-79.47175	40.6045	28.8	1082.0	18.3	43.5	62.9	87.1	110.3	4055.3	9156.8
37005251050000	-79.48501	40.6195	29.6	1143.6	18.1	43.7	63.0	87.0	110.0	4065.3	9253.2
37005251060000	-79.48214	40.6227	31.7	1132.3	20.1	48.5	69.2	95.9	121.5	3491.0	8240.3
37005251130000	-79.48863	40.6196	30.6	1128.4	19.1	46.1	66.1	91.4	115.8	3775.5	8726.0
37005251170000	-79.33776	40.7773	29.0	1137.8	17.6	42.5	61.6	84.9	107.3	4188.0	9515.2
37005251190000	-79.54762	40.7456	27.5	979.6	18.9	45.2	65.5	90.4	113.3	3877.1	9071.3
37005251220000	-79.48571	40.6759	28.8	1035.4	19.1	45.3	65.7	90.0	113.8	3905.1	8869.4
37005251570000	-79.26750	40.7519	30.4	1161.0	18.5	44.3	63.0	89.1	112.9	3927.0	8949.7
37005251590000	-79.28605	40.8115	26.0	1122.3	15.2	36.5	54.1	73.9	93.1	4956.6	10891.7
37005251610000	-79.27356	40.8210	30.9	1152.1	19.0	45.9	65.8	91.2	115.6	3782.4	8744.8
37005251630000	-79.23869	40.8320	33.5	1138.4	21.5	51.9	73.4	102.1	129.7	3259.4	7551.8
37005251860000	-79.28085	40.8074	32.5	1147.0	20.5	49.5	70.4	97.7	124.0	3407.5	8025.8
37005251970000	-79.25404	40.7617	27.0	1151.2	15.6	37.3	54.1	76.3	96.3	4775.2	10572.9
37005252020000	-79.25249	40.7590	30.4	1113.1	19.2	45.5	64.0	91.4	116.0	3743.1	8610.7
37005252060000	-79.27313	40.8311	31.0	1123.2	19.6	47.3	67.7	93.7	118.7	3632.0	8469.6
37005252150000	-79.54132	40.7363	30.7	1098.2	19.8	48.7	69.2	96.9	121.8	3619.7	8439.4

37005252160000	-79.28532	41.0018	29.6	1058.3	19.5	48.6	68.3	94.8	118.8	3588.1	8809.2
37005252530000	-79.46807	40.6664	23.7	990.0	14.9	34.9	52.6	70.9	89.0	5222.3	11251.0
37005252820000	-79.48415	40.7687	27.3	1092.4	16.8	41.0	59.7	82.8	103.6	4316.4	9966.3
37005252850000	-79.46370	40.6261	30.7	1012.2	21.4	50.1	71.7	99.2	126.0	3385.0	7723.5
37005252920000	-79.46662	40.6224	29.7	1061.9	19.5	46.1	66.4	91.7	116.2	3750.2	8610.0
37005253170000	-79.48666	40.7506	27.6	1117.4	16.7	40.7	59.3	81.8	102.8	4376.4	10005.8
37005253180000	-79.48811	40.7475	28.9	1083.9	18.3	44.3	64.1	88.6	111.5	3979.1	9177.6
37005253300000	-79.43327	40.7400	28.7	1112.8	17.7	42.7	62.1	85.3	107.7	4161.5	9486.9
37005253380000	-79.27457	40.7382	32.4	1143.0	20.5	48.8	67.8	97.8	124.2	3477.2	7903.8
37005253440000	-79.50522	40.6105	28.4	1131.7	17.1	41.3	60.1	82.7	104.4	4323.2	9778.2
37005253710000	-79.21903	41.0330	18.2	796.1	11.6	26.9	42.2	55.7	68.6	6717.8	13015.8
37005253730000	-79.26729	40.9792	30.8	1063.5	20.5	50.7	71.8	99.6	125.0	3464.0	8251.0
37005253850000	-79.46700	40.7889	27.8	1127.2	16.7	41.0	59.6	82.9	103.8	4306.5	9978.5
37005254180000	-79.44125	40.6215	29.8	1112.8	18.7	44.1	61.8	89.2	113.1	3905.0	8855.3
37005254190000	-79.34109	40.7278	28.1	1150.6	16.6	40.2	58.6	80.6	101.7	4457.8	10058.2
37005254300000	-79.50522	40.5707	31.3	1061.0	21.1	49.4	69.6	98.6	125.3	3432.7	7777.2
37005254310000	-79.44468	40.6229	29.0	1052.2	19.0	44.4	62.7	89.6	113.6	3886.9	8787.6
37005254340000	-79.51864	40.5656	28.6	1061.0	18.4	43.4	62.6	87.1	110.3	4053.2	9127.9
37005254380000	-79.51688	40.5677	29.1	1060.7	19.0	44.6	63.9	89.4	113.3	3903.0	8842.0
37005254640000	-79.22537	41.0371	23.8	838.2	17.7	41.5	60.8	82.3	102.8	4352.6	9995.3
37005254660000	-79.26374	40.8511	31.8	1139.3	20.0	48.8	69.5	96.5	122.1	3505.7	8251.7
37005254700000	-79.34803	40.8896	27.2	920.2	19.8	46.6	67.5	93.0	116.7	3778.6	8711.1
37005254810000	-79.27348	40.8160	30.8	1144.8	19.0	46.0	65.9	91.3	115.6	3779.8	8735.4
37005254850000	-79.24303	40.8419	32.7	1161.6	20.4	49.6	70.6	98.0	124.2	3402.8	8056.7
37005255060000	-79.24500	40.9788	28.8	1036.3	19.1	46.4	66.7	92.7	116.3	3775.7	8863.4
37005255660000	-79.44477	40.6377	26.2	1007.1	17.1	39.7	57.7	80.4	101.6	4475.6	9958.4
37005255710000	-79.43247	40.7449	27.1	1072.9	16.8	40.4	59.2	81.2	102.2	4416.8	10006.6
37005255880000	-79.46013	40.5929	23.7	1028.1	14.3	33.3	49.6	68.7	86.4	5445.9	11542.6
37005255890000	-79.46211	40.5899	27.3	1088.1	16.8	39.5	56.6	80.4	101.6	4474.0	9984.5
37005255930000	-79.44080	40.6271	24.6	1056.1	14.8	34.5	50.3	71.3	89.8	5199.7	11200.3
37005255990000	-79.44548	40.6140	27.6	1074.1	17.3	40.6	57.6	82.7	104.6	4319.2	9664.0
37005256000000	-79.44516	40.6319	27.4	1019.0	18.1	42.1	60.1	85.1	107.8	4169.5	9334.8
37005256020000	-79.42632	40.6337	28.0	1062.5	17.9	41.9	59.2	85.0	107.6	4175.3	9360.9
37005256030000	-79.44802	40.6443	32.9	1049.7	22.7	53.4	75.3	105.6	134.3	3168.2	7071.4
37005256050000	-79.44171	40.6323	27.0	1071.7	16.8	39.5	56.4	80.4	101.6	4471.6	9968.2

37005256080000	-79.43306	40.6305	28.6	1064.7	18.4	43.1	60.7	87.3	110.5	4042.1	9074.3
37005256190000	-79.45105	40.6154	28.1	1024.4	18.6	43.4	61.9	87.4	110.8	4035.2	9050.9
37005256200000	-79.42708	40.6285	26.4	1027.2	17.0	39.4	56.3	80.5	101.7	4468.9	9936.2
37005256210000	-79.43208	40.6201	29.7	1062.2	19.5	45.4	63.5	91.9	116.4	3741.0	8488.6
37005256320000	-79.30144	40.7027	29.8	1110.1	18.7	44.2	62.2	89.3	113.1	3911.1	8864.0
37005256330000	-79.40317	40.8659	29.6	1055.5	19.5	48.1	68.5	94.9	119.0	3638.3	8706.6
37005256370000	-79.43720	40.6101	29.7	1062.8	19.5	45.4	63.5	91.9	116.4	3741.6	8488.6
37005256520000	-79.45072	40.6462	26.6	1041.8	16.9	39.8	58.5	80.3	101.4	4480.8	10001.0
37005256600000	-79.49436	40.6351	34.2	1111.9	22.7	54.7	77.2	107.2	136.2	3095.7	7075.3
37005257070000	-79.41721	40.6372	23.0	1015.9	13.7	31.8	47.0	66.3	83.3	5707.1	11875.7
37005257230000	-79.46537	40.7864	31.1	1126.5	19.6	48.4	68.8	96.5	121.2	3647.9	8467.7
37005257620000	-79.29884	40.7003	35.9	1108.9	24.2	57.1	77.7	113.5	144.5	3154.5	6301.9
37005257680000	-79.26153	40.8360	33.4	1130.5	21.6	52.1	73.7	102.3	129.9	3249.6	7545.3
37005257710000	-79.47959	40.6384	30.5	1122.3	19.1	46.1	66.2	91.5	115.8	3773.9	8718.6
37005257880000	-79.42086	40.8590	30.1	1054.3	20.1	49.4	70.2	97.3	122.1	3549.1	8467.8
37005258340000	-79.23272	40.8171	34.0	1138.4	22.0	52.8	74.5	104.3	132.6	3207.5	7290.7
37005258360000	-79.39042	40.7164	31.5	1070.2	21.0	50.1	71.7	98.9	125.4	3367.8	7891.2
37005258380000	-79.24960	40.8008	32.9	1116.2	21.4	51.1	72.1	101.3	128.8	3318.5	7556.3
37005258600000	-79.49091	40.7507	31.5	1113.7	20.2	49.2	70.1	97.9	123.4	3507.6	8201.2
37005258620000	-79.48875	40.6071	28.0	1141.5	16.6	40.0	58.4	80.5	101.7	4464.1	10040.1
37005259320000	-79.38762	40.6954	29.6	1099.4	18.8	44.6	64.1	89.3	113.1	3913.9	8898.7
37005259580000	-79.43561	40.6078	27.6	1072.9	17.4	40.5	57.5	82.8	104.6	4313.4	9639.6
37005260530000	-79.24448	40.8458	29.6	1137.8	18.1	44.0	63.5	87.7	110.7	4023.7	9240.7
37005261700000	-79.24140	40.8449	29.6	1141.2	18.1	44.0	63.5	87.7	110.6	4026.9	9244.7
37005261970000	-79.33442	40.8631	28.6	1102.5	17.7	43.5	62.7	87.4	109.6	4039.3	9437.1
37005263210000	-79.42832	40.6389	26.8	1053.7	16.9	39.6	57.1	80.4	101.6	4474.2	9972.9
37005263250000	-79.42949	40.6333	26.8	1097.9	16.2	38.1	54.5	78.2	98.7	4626.7	10261.7
37005263810000	-79.40758	40.8062	27.4	976.6	18.9	44.7	64.9	89.5	112.5	3945.6	9053.4
37005265830000	-79.56205	40.6813	28.8	1040.3	19.1	45.2	65.6	89.8	113.6	3905.0	8877.4
37005266510000	-79.55240	40.5954	26.4	1025.4	17.0	40.3	59.3	80.8	101.8	4446.8	10005.1
37005266980000	-79.41839	40.6600	28.9	1044.9	19.1	44.8	64.9	89.5	113.4	3901.9	8847.3
37005266990000	-79.42354	40.6612	30.0	1044.6	20.1	47.4	68.2	94.1	119.3	3581.5	8323.4
37005267090000	-79.32926	40.8242	26.0	1077.5	15.8	38.5	56.5	78.1	97.6	4635.1	10515.8
37005267700000	-79.26723	40.9221	28.1	1022.9	18.6	44.8	64.8	89.6	112.6	3924.6	9102.7
37005268680000	-79.33206	40.8820	30.0	1042.4	20.1	48.7	69.7	97.1	122.1	3614.4	8334.1

37005269050000	-79.35016	40.9834	28.3	1040.3	18.5	45.8	65.3	90.2	112.9	3864.6	9261.2
37005269060000	-79.31260	40.9963	28.0	1059.5	17.9	44.5	63.5	87.7	109.8	4028.1	9540.2
37005269500000	-79.33209	40.8771	29.4	1083.0	18.9	45.9	66.0	91.9	115.4	3834.0	8901.3
37005269760000	-79.34221	40.8745	27.6	1033.6	18.0	43.6	63.2	87.6	109.8	4026.1	9384.4
37005270300000	-79.28283	40.7291	31.0	1116.8	19.7	46.6	65.1	93.6	118.8	3639.6	8350.5
37005270490000	-79.34011	40.9836	18.6	670.6	14.3	32.0	49.2	65.4	81.1	5759.2	11910.7
37005270550000	-79.27102	40.9250	26.9	977.8	18.3	43.4	63.3	87.1	109.4	4054.3	9346.5
37005270630000	-79.34588	40.9809	25.5	917.5	18.0	43.2	62.5	85.3	106.6	4168.2	9722.6
37005270640000	-79.34480	40.9839	25.1	889.7	18.1	43.2	62.5	85.2	106.5	4172.2	9708.5
37005271990000	-79.34123	40.9769	23.3	917.1	15.6	37.3	55.2	74.7	93.0	4930.9	10926.1
37005272000000	-79.33728	40.9816	24.6	892.5	17.5	41.7	60.7	82.5	103.1	4335.8	10013.1
37005272430000	-79.35856	40.9844	25.8	935.7	17.9	43.2	62.5	85.3	106.7	4165.7	9721.3
37005272440000	-79.36019	40.9877	28.4	1045.5	18.5	45.8	65.3	90.2	112.9	3865.6	9264.3
37005272820000	-79.46836	40.8479	30.1	1091.8	19.3	48.1	68.2	94.6	118.6	3624.7	8804.8
37005273500000	-79.22882	40.9516	27.8	1047.3	18.0	43.4	62.9	87.1	109.4	4053.5	9397.8
37005282020000	-79.41342	40.8559	28.1	1022.9	18.6	45.5	65.5	90.3	113.1	3850.0	9179.4
37005284370000	-79.61213	40.7213	27.0	989.7	18.2	43.4	63.2	87.2	109.4	4052.0	9355.5
37005300370000	-79.55940	40.8563	49.0	1763.0	22.7	59.4	79.1	115.3	144.9	2751.5	7079.5
37007200230000	-80.44915	40.7516	42.3	1450.9	22.9	60.4	78.7	112.1	141.4	3054.5	7601.3
37007200240000	-80.45869	40.7448	46.0	1484.1	24.9	65.4	84.7	121.0	152.8	2817.7	6870.2
37007200270000	-80.40261	40.7565	53.9	1496.3	30.0	78.8	100.3	144.4	182.7	2345.3	5304.3
37007200540000	-80.50430	40.7862	53.2	1341.1	33.0	87.7	110.7	159.7	202.1	2115.9	4608.4
37007200600000	-80.43400	40.6021	67.6	2313.4	25.4	59.4	80.8	111.3	140.3	2963.9	7258.5
37007200890000	-80.34125	40.5218	24.7	900.2	17.4	43.3	59.0	82.0	103.1	4477.6	10252.2
37007200930000	-80.49790	40.4878	63.0	1722.1	31.4	80.8	104.8	148.7	188.1	2076.4	4967.6
37007202710000	-80.48719	40.7231	49.4	1540.2	26.2	68.5	88.3	126.4	159.7	2689.6	6437.3
37009200040000	-78.34971	39.8405	43.4	1449.9	23.7	59.9	78.3	116.1	148.7	3089.1	6061.6
37009200060000	-78.39067	39.8666	50.9	1961.4	21.3	56.9	72.7	111.4	142.3	3211.3	6378.1
37009200080000	-78.35487	39.8278	47.7	1393.9	27.8	69.6	90.1	133.9	171.9	2746.8	5131.8
37009200090000	-78.59310	40.3032	56.8	2128.7	22.4	61.1	76.7	122.9	156.1	2971.3	5721.7
37009200110000	-78.35861	39.8217	54.1	1517.9	29.7	75.8	96.7	145.4	186.8	2552.7	4665.4
37009200120000	-78.40589	39.8366	52.5	1842.8	23.6	62.3	79.2	120.9	154.8	3047.5	5786.4
37009200130000	-78.60438	39.9456	32.9	855.0	28.0	63.4	85.7	124.2	158.8	2885.4	5577.8
37009200140000	-78.40758	39.8432	53.5	1832.2	24.3	64.1	81.5	124.3	159.2	2969.9	5602.3
37009200150000	-78.34206	39.8521	48.0	1467.9	26.6	67.3	87.0	129.7	166.4	2834.1	5327.3

37009200160000	-78.40127	39.8519	60.9	1848.0	28.1	74.1	93.0	142.7	183.2	2615.9	4766.6
37009200170000	-78.37052	39.7956	54.1	1618.8	27.9	72.0	91.8	138.7	178.0	2672.7	4927.6
37009200220000	-78.41827	39.8185	47.3	1762.1	21.7	56.9	73.6	111.1	142.0	3214.7	6394.3
37009200240000	-78.41898	39.7724	50.2	1612.4	25.5	65.9	84.7	127.4	163.4	2890.1	5438.4
37009200250000	-78.36305	39.8092	52.7	1492.0	29.3	74.5	95.4	143.1	183.8	2590.1	4753.0
37009200260000	-78.37378	39.8863	46.7	2052.8	18.4	49.3	63.7	97.7	124.3	3592.3	7489.7
37009200280000	-78.42379	39.8105	51.0	1796.8	23.4	61.4	78.6	119.4	152.8	3077.3	5873.0
37009200290000	-78.34117	39.8272	55.4	1909.6	24.3	64.4	81.4	124.9	160.0	2960.9	5568.7
37009200310000	-78.44760	39.7243	47.3	1503.0	25.5	64.9	84.1	125.7	161.1	2922.4	5525.2
37009200320000	-78.44778	39.7488	45.0	1699.0	21.2	55.2	71.9	108.3	138.3	3279.7	6596.2
37009200330000	-78.45169	39.7418	38.7	1684.3	17.6	45.9	61.2	91.2	116.1	3870.2	8230.4
37009200340000	-78.61792	40.1032	71.9	2824.9	22.3	57.3	74.3	114.1	145.3	3126.0	6231.4
37009200430000	-78.62929	40.1018	91.5	3531.4	23.4	57.4	75.6	112.4	143.7	3150.8	6310.3
37009200540000	-78.32751	39.9413	68.4	2192.4	27.1	73.5	90.4	143.4	183.5	2641.5	4745.4
37009200580000	-78.24182	40.0478	62.7	2392.7	22.4	61.6	76.1	122.6	156.2	3055.0	5722.0
37009200590000	-78.40724	39.8738	58.8	1976.3	25.2	67.3	84.4	130.6	167.3	2848.8	5289.5
37009200630000	-78.42556	39.7487	53.1	2092.5	21.1	56.6	71.6	111.0	141.8	3232.5	6408.2
37009200770000	-78.33860	39.8906	51.4	1902.0	22.3	59.2	75.6	115.5	147.6	3122.3	6112.6
37009900020000	-78.61926	40.1069	68.2	2390.6	24.8	67.1	83.3	134.0	170.6	2822.4	5151.8
37013200060000	-78.36341	40.6233	56.3	1774.9	26.7	71.1	90.1	138.5	177.3	2671.5	4941.2
37013200070000	-78.17280	40.7393	33.6	1021.1	24.1	57.8	78.6	112.6	144.0	3085.5	6283.1
37013200080000	-78.36541	40.6529	74.6	2811.8	23.4	60.3	77.6	120.9	153.7	3029.8	5829.0
37015200010000	-76.30588	41.5806	118.0	3914.6	27.8	71.5	83.1	130.9	169.9	2920.9	5230.6
37015200020000	-76.32595	41.7837	53.5	2003.5	22.2	70.8	78.6	139.5	178.2	2866.8	4903.1
37015200090000	-76.34285	41.6991	71.9	2286.3	27.5	86.9	93.1	171.7	219.3	2583.0	3834.1
37015200280000	-76.77737	41.9014	49.3	1801.4	22.4	71.5	79.5	138.7	177.7	2916.1	4931.8
37015200570000	-76.63913	41.9634	67.4	2429.0	24.0	61.4	86.9	125.5	155.1	2841.2	6937.6
37015200660000	-76.34691	41.9899	38.6	1468.2	20.2	64.3	76.5	135.2	166.9	2612.8	5953.9
37019200110000	-80.04530	40.8917	42.2	1695.0	19.6	50.2	64.4	89.4	113.2	4887.2	10779.3
37019200500000	-79.76389	40.7149	23.7	905.6	16.2	37.3	55.9	75.3	94.7	4848.8	10633.7
37019200650000	-79.75290	41.0737	16.9	723.3	10.9	24.5	39.5	51.7	63.5	7132.7	13432.7
37019201010000	-79.70389	40.8473	21.0	797.1	15.1	33.7	51.3	68.5	85.9	5426.0	11474.1
37019205240000	-79.97570	40.9046	34.9	1038.5	25.0	60.7	84.8	119.1	150.3	2779.8	6359.5
37019206900000	-80.08110	40.8813	64.9	2317.1	24.1	56.6	79.6	107.1	134.7	3077.3	7583.7
37019213050000	-79.96540	40.9637	66.7	1701.4	33.9	81.7	102.3	142.4	179.2	2372.9	6475.0

37019213590000	-79.95350	41.1630	66.9	2082.7	27.8	67.3	91.3	125.4	158.2	2475.6	6206.6
37019213620000	-79.96410	41.1648	63.5	2070.8	26.3	64.3	87.1	120.1	151.6	2633.8	6626.7
37021200030000	-78.61870	40.7075	90.1	2508.5	32.3	85.6	105.1	172.5	219.4	2181.5	3916.2
37021200040000	-78.80840	40.4079	89.2	2728.6	29.4	77.5	95.9	158.9	201.3	2462.7	4188.2
37021200060000	-78.95200	40.4047	85.7	2344.5	32.7	85.0	105.7	160.5	207.1	2175.3	4164.0
37021200080000	-78.95930	40.3924	74.7	2447.9	26.8	70.2	88.3	133.9	172.2	2722.6	5126.7
37021200100000	-78.89960	40.4474	82.6	2465.8	29.9	78.3	97.3	150.7	193.5	2407.6	4475.4
37021200130000	-78.84950	40.3155	81.8	2922.4	24.9	65.0	82.2	134.5	170.0	2914.9	5151.4
37021200140000	-78.70590	40.6310	83.3	2579.2	28.8	76.6	94.5	156.0	197.9	2493.8	4286.8
37021200150000	-78.81690	40.5099	67.5	2631.6	22.3	59.1	74.6	122.5	154.6	3145.6	5785.0
37021200160000	-78.71590	40.6214	41.8	1141.2	28.8	65.4	87.7	130.3	165.9	2840.3	5306.6
37021200170000	-78.83010	40.4970	80.7	2595.1	27.6	73.4	90.8	151.0	191.1	2615.1	4464.3
37021200190000	-78.84860	40.4934	87.6	2649.0	29.7	78.7	96.9	160.9	203.9	2416.2	4125.6
37021200220000	-78.73710	40.5989	67.0	2539.0	22.8	60.7	76.5	125.6	158.6	3071.3	5606.6
37021200280000	-78.79010	40.5282	58.0	2529.8	19.4	51.4	66.1	107.3	135.2	3555.5	6816.2
37021200310000	-78.66010	40.6722	100.7	2514.6	36.5	96.8	117.6	195.9	249.0	1883.9	3712.0
37021200330000	-78.81617	40.4405	49.0	1655.7	24.1	59.7	78.9	120.0	152.4	3109.4	5886.5
37021200400000	-78.94360	40.4160	75.2	2441.1	27.1	71.0	89.1	135.7	174.4	2691.4	5050.2
37021200450000	-78.70616	40.7011	36.2	1138.1	23.9	54.4	74.3	109.7	139.3	3367.0	6508.1
37021200460000	-78.71915	40.6958	38.0	1143.0	25.4	57.5	78.0	115.0	146.2	3204.5	6143.2
37021200490000	-78.81860	40.4045	35.1	1223.8	21.3	49.3	67.9	100.3	127.0	3691.0	7280.0
37021200500000	-78.77100	40.4094	89.7	2812.1	28.7	75.6	93.6	153.6	194.9	2529.1	4370.5
37021200780000	-78.81350	40.6965	83.1	2536.6	29.2	77.1	95.5	153.8	195.9	2461.4	4366.9
37021200950000	-78.69440	40.2463	77.4	2801.7	24.4	64.3	80.8	131.9	166.9	2943.6	5273.3
37021201520000	-78.62246	40.7042	33.3	1126.5	21.6	48.8	67.5	98.7	125.1	3735.8	7371.7
37021201620000	-78.77309	40.7138	32.7	1206.4	19.6	44.7	62.4	90.2	114.3	3986.0	8199.7
37021201680000	-78.74297	40.7236	32.5	1108.9	21.2	47.5	66.0	96.1	121.8	3835.7	7596.1
37021201720000	-78.72655	40.7228	31.4	1152.8	19.5	44.1	61.7	89.6	113.4	3951.2	8297.4
37021201730000	-78.74585	40.7118	33.0	1142.1	21.0	47.2	65.5	94.8	120.3	3863.4	7698.1
37021201830000	-78.75902	40.7236	31.8	1098.5	20.8	46.5	64.7	93.9	119.1	3896.4	7797.1
37021201840000	-78.75848	40.7198	29.0	1094.5	18.3	40.9	57.8	83.4	105.4	4274.7	9112.2
37021202020000	-78.64393	40.7033	25.7	1124.7	14.9	33.6	49.0	70.2	88.2	5308.1	11281.2
37021202180000	-78.79888	40.7004	32.4	1055.5	22.2	49.6	68.3	99.8	126.7	3686.4	7245.8
37021202210000	-78.79221	40.7035	31.7	1171.0	19.4	43.8	61.3	87.8	111.4	4017.5	8428.5
37021202220000	-78.79311	40.7063	32.8	1132.9	21.0	47.2	65.6	94.7	120.2	3861.3	7698.5

37021202230000	-78.80285	40.6987	29.1	1020.5	19.7	44.2	61.7	89.8	113.7	3970.8	8247.3
37021202360000	-78.77201	40.7204	35.1	1177.8	22.2	50.2	69.1	99.9	127.1	3648.6	7217.1
37021202460000	-78.64664	40.7005	29.1	1105.2	18.2	41.1	58.1	84.3	106.4	4217.7	9088.7
37021202480000	-78.63311	40.7004	30.8	1143.6	19.0	43.1	60.6	88.1	111.3	3994.3	8551.7
37021202710000	-78.79906	40.6888	30.3	1105.2	19.2	43.0	60.5	87.3	110.5	4039.6	8536.2
37021202730000	-78.79141	40.6902	32.7	1162.8	20.4	46.0	64.0	92.4	117.3	3930.9	7938.2
37021202830000	-78.78526	40.7064	34.5	1178.1	21.7	49.1	67.8	97.9	124.5	3724.4	7395.3
37021202880000	-78.78138	40.7135	31.9	1121.4	20.4	45.7	63.7	92.2	116.9	3924.9	7966.4
37021202940000	-78.79708	40.7060	36.5	1114.0	24.7	55.2	75.4	110.3	140.3	3327.9	6427.9
37021202960000	-78.71483	40.7092	34.7	1235.1	20.8	47.9	66.1	96.8	122.7	3809.4	7565.0
37021202990000	-78.71897	40.7067	34.7	1234.4	20.8	47.8	66.1	96.7	122.5	3814.9	7573.9
37021203000000	-78.68082	40.7001	31.5	1029.3	21.8	48.8	67.6	99.3	125.7	3663.7	7327.9
37021203040000	-78.79834	40.6972	30.1	1047.9	20.1	45.0	62.7	91.3	115.6	3981.2	8082.9
37021203050000	-78.80050	40.7044	29.3	1030.5	19.7	44.1	61.5	89.5	113.3	3975.3	8278.6
37021203070000	-78.79021	40.7009	33.3	1124.1	21.6	48.4	67.0	96.9	123.1	3772.3	7486.8
37021203130000	-78.73257	40.6496	32.7	1119.8	21.1	47.6	66.0	96.3	122.1	3811.2	7583.2
37021203170000	-78.78534	40.6978	30.0	1084.5	19.4	43.3	60.7	87.8	111.1	4013.8	8467.4
37021203200000	-78.76443	40.7151	32.6	1158.2	20.4	46.1	64.1	92.5	117.4	3925.0	7929.6
37021203220000	-78.75776	40.7143	31.2	1121.1	19.8	44.3	62.1	89.4	113.4	3991.4	8257.8
37021203330000	-78.73194	40.6542	32.6	1114.7	21.2	47.6	66.0	96.2	122.0	3829.4	7586.8
37021203370000	-78.72599	40.6636	35.0	1170.4	22.2	50.4	69.3	101.1	128.4	3634.7	7144.6
37021203430000	-78.74049	40.6469	32.2	1172.3	19.8	45.1	62.9	91.6	116.0	3945.6	8077.5
37021203630000	-78.72581	40.6466	30.1	1054.3	20.1	44.9	62.7	91.2	115.4	3922.0	8099.5
37021203660000	-78.72437	40.6440	27.9	1096.1	17.3	38.7	55.2	79.6	100.4	4531.3	9747.7
37021203720000	-78.72632	40.6569	24.6	1098.8	14.2	31.8	46.8	66.6	83.6	5664.0	11849.3
37021203770000	-78.76853	40.6834	33.9	1191.2	20.9	47.5	65.7	95.2	120.8	3848.0	7669.6
37021203820000	-78.71161	40.6524	32.7	1162.8	20.4	46.4	64.5	94.2	119.3	3897.4	7815.4
37021203990000	-78.72582	40.6701	35.9	1174.4	22.9	52.0	71.2	104.4	132.6	3528.0	6885.5
37021204000000	-78.72689	40.6538	39.8	1525.5	20.2	48.6	66.4	98.4	124.7	3752.7	7480.1
37021204240000	-78.77705	40.7125	33.3	1168.9	20.8	47.1	65.4	94.9	120.4	3861.4	7707.7
37021204810000	-78.73521	40.7193	32.3	1130.5	20.6	46.3	64.4	93.8	118.8	3889.7	7829.1
37021204860000	-78.51212	40.7146	35.7	1181.7	22.6	52.1	71.3	105.3	133.5	3503.5	6856.1
37021204880000	-78.80519	40.7133	35.7	1093.9	24.4	54.5	74.5	109.1	138.7	3368.7	6514.3
37021205020000	-78.78968	40.7124	33.5	1143.9	21.5	48.4	66.9	97.3	123.5	3775.5	7474.6
37021205210000	-78.70025	40.7131	31.4	1109.8	20.2	48.9	69.8	96.8	122.5	3487.3	8202.6

37021205270000	-78.80361	40.7181	31.6	1124.4	20.1	45.3	63.2	91.9	116.4	3966.7	8027.2
37021205280000	-78.80729	40.7198	28.1	1131.1	16.9	38.1	54.4	78.4	98.8	4618.9	9938.3
37021205440000	-78.79816	40.6832	36.8	1160.7	24.0	54.1	73.9	107.3	136.6	3397.3	6629.7
37021205720000	-78.70703	40.6573	31.7	1129.9	20.1	45.5	63.5	92.7	117.3	3878.0	7972.6
37021205930000	-78.81942	40.6560	36.2	1095.5	24.9	55.6	75.8	110.6	140.8	3309.3	6397.8
37021206140000	-78.81719	40.6644	35.0	1126.5	23.1	51.7	71.1	103.2	131.2	3541.7	6944.6
37021206180000	-78.80176	40.6645	31.3	1055.8	21.1	47.2	65.4	95.3	120.9	3862.4	7659.1
37021206470000	-78.82628	40.6770	34.2	1148.5	21.9	49.3	68.0	97.6	124.3	3713.9	7390.6
37021206790000	-78.83773	40.6454	32.8	1174.4	20.3	45.9	63.9	91.8	116.7	3945.5	7980.9
37021207010000	-78.81257	40.6569	32.1	1050.7	22.0	49.3	68.0	99.4	126.1	3703.7	7285.2
37021207410000	-78.79852	40.6672	28.2	1032.4	18.6	41.6	58.6	85.0	107.4	4175.6	8903.5
37021207810000	-78.56728	40.7249	31.1	1129.3	19.6	44.6	62.4	91.4	115.4	3858.7	8215.2
37021207830000	-78.79001	40.6643	32.1	1119.5	20.6	46.3	64.5	93.8	118.8	3874.8	7824.6
37021207880000	-78.76890	40.4974	89.4	2770.9	29.0	76.3	94.7	156.6	198.4	2507.8	4264.1
37021207890000	-78.93220	40.4212	85.9	2452.1	31.3	82.1	101.8	156.5	201.4	2272.2	4285.4
37021207900000	-78.94790	40.4082	71.0	2391.5	25.9	67.6	85.5	128.9	165.8	2828.6	5354.1
37021207910000	-78.80130	40.4024	80.1	2683.5	26.5	70.1	87.2	143.9	182.1	2725.8	4737.9
37021208140000	-78.72012	40.5788	25.8	899.2	18.7	42.0	58.8	86.3	108.9	4093.0	8836.6
37021208190000	-78.63000	40.5318	56.0	1912.9	24.6	62.7	81.3	126.6	160.8	2976.4	5523.8
37021208200000	-78.62860	40.5813	51.4	1963.2	21.6	55.4	72.6	112.8	142.9	3326.3	6359.5
37021208210000	-78.57010	40.6159	51.5	1969.0	21.6	55.4	72.6	112.8	142.9	3319.0	6362.5
37021208230000	-78.79030	40.4129	80.2	2706.6	26.3	69.5	86.6	142.6	180.6	2746.0	4790.2
37021208260000	-78.58171	40.7149	23.5	854.1	17.0	37.8	53.7	78.3	98.6	4626.8	9989.7
37021208280000	-78.63290	40.5295	59.5	1934.3	26.1	66.7	86.0	134.4	170.8	2816.7	5139.0
37021208320000	-78.66290	40.5231	60.6	1928.5	26.7	68.3	87.8	137.4	174.6	2759.6	5005.4
37021208340000	-78.62420	40.5322	58.3	1921.8	25.6	65.6	84.6	132.1	167.9	2859.5	5246.1
37021208380000	-78.81510	40.6732	30.0	1082.0	19.4	43.3	60.7	87.1	110.5	4053.9	8502.4
37021208400000	-78.82591	40.6700	28.1	1112.5	17.2	38.4	54.9	77.5	98.1	4675.2	9894.6
37021208410000	-78.82159	40.6707	29.3	1097.3	18.5	41.4	58.5	83.4	105.7	4279.0	9012.1
37021208420000	-78.77350	40.4024	72.1	2745.9	23.0	60.7	76.6	124.9	157.9	3085.6	5636.3
37021208440000	-78.97560	40.3717	72.0	2540.5	24.8	65.2	82.1	125.4	160.9	2923.0	5535.4
37021208450000	-78.82950	40.3801	73.8	2569.5	25.2	67.1	83.7	138.3	174.9	2812.9	4976.7
37021208780000	-78.79509	40.6523	43.3	1648.1	20.8	51.0	68.8	102.2	129.8	3606.5	7126.1
37021208790000	-78.80122	40.6550	43.9	1649.3	21.2	51.7	69.7	103.2	131.3	3557.8	7026.7
37021208830000	-78.76457	40.6966	39.6	1457.6	21.0	49.7	68.0	99.2	126.1	3686.1	7336.5

37021208870000	-78.75992	40.6951	31.8	1137.2	20.0	45.1	62.9	90.9	115.2	3993.0	8105.4
37021209380000	-78.63100	40.5364	50.1	1881.8	21.9	55.6	73.2	113.0	143.2	3314.4	6342.4
37023000020000	-78.19015	41.3375	60.9	1794.4	29.0	76.1	98.7	155.7	196.4	2652.5	4297.6
37023000210000	-78.19506	41.3251	60.0	1872.4	27.3	69.2	92.0	140.9	178.1	3239.1	4857.5
37023000220000	-78.18432	41.3302	34.9	1036.3	25.0	76.3	97.1	157.6	198.5	2064.3	4231.3
37023200050000	-77.99567	41.3651	70.2	2014.1	30.4	80.1	102.8	154.4	198.2	2612.7	4349.7
37023200090000	-78.27298	41.4372	72.2	2055.6	30.8	68.6	98.3	138.4	174.7	2404.4	4945.7
37023200170000	-78.29896	41.4247	69.4	1981.2	30.5	68.9	97.8	138.9	175.4	2398.4	4935.3
37023200200000	-78.15268	41.5170	72.8	2058.0	31.0	69.1	99.0	139.1	175.4	2387.4	4915.8
37023200290000	-78.23516	41.4974	77.8	1991.3	34.6	77.8	109.7	155.9	197.2	2049.2	4293.1
37023200300000	-78.18034	41.4340	67.3	1823.3	32.0	79.8	106.0	160.9	203.5	2499.5	4129.9
37023200370000	-78.13961	41.5567	69.9	2106.8	28.9	64.4	92.9	130.3	164.2	2612.9	5312.5
37023200420000	-78.23757	41.5853	60.6	1938.2	26.6	60.2	86.3	121.5	152.8	2822.8	5944.1
37023200440000	-78.16621	41.5512	58.3	1991.0	24.8	55.7	80.8	113.4	142.5	3083.0	6567.5
37023200460000	-78.18092	41.5818	59.7	1958.3	25.9	58.7	84.3	119.1	149.9	2899.5	6115.3
37023200470000	-78.32583	41.5548	52.3	1822.1	23.8	55.4	78.5	111.6	140.2	3138.8	6886.7
37023200490000	-78.23114	41.4782	68.6	2084.5	28.6	63.7	92.0	129.1	162.7	2647.8	5372.3
37023200500000	-78.18566	41.5297	60.9	2023.9	25.6	57.2	83.1	116.4	146.3	2977.9	6296.4
37023200540000	-78.10521	41.4320	53.9	1988.8	22.6	55.9	76.7	112.5	142.7	3047.1	6690.5
37023200580000	-78.22676	41.4839	66.2	2131.8	26.8	59.8	86.9	121.6	153.1	2829.1	5863.6
37023200600000	-78.09392	41.4885	63.8	2105.3	26.0	60.3	85.4	120.6	153.3	2800.6	5828.5
37023200620000	-78.09190	41.4391	66.9	2014.1	28.7	70.3	95.1	139.3	177.5	2391.5	4914.6
37023200630000	-78.34594	41.5836	24.8	661.4	23.9	71.8	93.6	143.2	180.6	2169.2	4758.6
37023200670000	-78.11386	41.4034	60.0	2184.5	23.3	52.8	76.9	106.3	134.8	3235.9	6935.2
37023200680000	-78.23981	41.4743	63.7	2094.6	26.1	58.2	84.6	118.4	148.9	2914.4	6127.0
37023200690000	-78.09255	41.5126	67.9	2070.2	28.5	65.6	92.5	132.4	167.8	2502.1	5235.6
37023200700000	-78.26660	41.4468	63.5	2075.1	26.3	58.6	85.1	118.9	149.5	2895.5	6094.4
37023200940000	-78.28586	41.4932	29.2	983.0	20.5	62.7	80.8	127.0	159.5	2591.7	5945.0
37023900060000	-78.19466	41.2434	89.3	2314.7	34.7	78.6	111.0	151.7	194.7	2273.2	4423.6
37023900240000	-78.13738	41.3374	59.8	1792.8	28.3	75.5	97.3	154.3	194.9	2622.0	4344.3
37023900300000	-78.18906	41.3334	56.5	1790.7	26.5	70.2	91.4	144.3	181.9	2899.0	4720.6
37025200020000	-75.62425	40.8559	41.0	1487.4	21.5	69.5	78.9	124.6	162.5	2565.5	5500.8
37027200010000	-77.60145	40.9941	87.3	4766.2	16.4	39.7	54.8	78.2	99.5	4624.4	9981.5
37027200050000	-77.89781	40.9676	71.0	2174.1	28.5	77.3	95.8	149.5	191.8	2463.8	4517.2
37027200060000	-77.84239	41.0148	86.3	3404.6	22.7	55.7	74.6	107.9	138.1	3235.2	6602.7

37027200070000	-77.84946	41.0086	92.4	3979.5	21.0	51.3	69.3	99.0	126.7	3488.3	7385.1
37027200080000	-77.85870	41.0259	89.9	3404.6	23.8	58.3	77.8	112.6	144.2	3094.3	6278.2
37027200120000	-77.84546	40.9693	51.5	2101.9	20.2	55.0	70.6	108.8	138.6	3144.8	6598.3
37027200140000	-77.84541	40.9694	74.2	2625.2	24.8	63.1	82.4	122.4	156.8	2810.0	5701.0
37027200150000	-77.81756	40.9857	58.9	2190.9	22.8	61.7	78.1	120.8	154.4	2843.6	5803.9
37027200160000	-78.01747	40.8987	78.7	3499.7	19.9	48.6	66.0	94.9	121.2	3636.9	7865.1
37027200220000	-78.15824	40.8174	102.7	4214.2	22.2	54.5	73.0	105.2	134.7	3311.3	6785.7
37027200270000	-78.12825	40.8452	64.5	2129.3	26.1	71.5	88.7	139.5	178.5	2637.4	4899.9
37027200280000	-78.08291	40.9072	62.3	2199.7	24.2	65.8	82.6	128.7	164.6	2724.1	5385.5
37027200290000	-78.00887	40.9275	59.3	2172.3	23.2	63.2	79.4	124.3	158.8	2810.2	5615.5
37027200350000	-77.83533	41.0581	35.8	1467.0	18.3	47.7	64.5	94.0	119.8	3620.7	8279.9
37027200570000	-78.10340	40.8578	59.3	2168.0	23.2	63.3	79.6	124.4	158.9	2805.7	5611.4
37027200580000	-78.01429	40.9131	59.5	2192.7	23.0	62.9	78.9	124.0	158.2	2831.6	5635.8
37027200690000	-78.07872	40.8598	63.6	2183.0	25.0	68.3	85.1	133.8	171.0	2712.3	5148.6
37027200700000	-78.05215	40.8639	58.6	2148.2	23.1	63.3	79.3	124.6	159.1	2815.4	5602.0
37027200750000	-78.08442	40.9013	64.5	2198.8	25.3	68.6	85.7	133.7	171.2	2650.8	5147.9
37027200780000	-77.83587	41.0660	38.5	1512.4	19.5	51.3	68.5	100.7	128.5	3416.2	7486.4
37027200860000	-77.84022	41.0625	49.7	1467.6	27.7	72.5	93.7	139.0	178.6	2597.2	4912.8
37027200880000	-78.08713	40.9051	62.2	2184.5	24.4	66.2	83.0	129.3	165.4	2710.9	5356.0
37027201020000	-78.08722	40.9108	56.8	2204.9	21.7	58.9	74.7	115.9	147.9	2933.6	6100.1
37027201030000	-78.11481	40.9185	64.6	2202.2	25.2	68.4	85.6	133.4	170.7	2651.1	5164.1
37027201160000	-78.11680	40.9145	59.0	2195.8	22.8	61.8	78.0	121.1	154.8	2850.4	5785.8
37027201200000	-78.08309	40.9153	63.4	2193.0	24.8	67.4	84.3	131.7	168.4	2682.7	5244.1
37027201210000	-78.13178	40.8613	60.1	2194.6	23.3	63.2	79.6	124.0	158.4	2802.6	5631.4
37027201560000	-78.11586	40.8493	55.1	2129.0	21.7	59.3	74.9	116.8	149.1	2943.0	6045.0
37027201570000	-78.11985	40.8650	60.7	2203.7	23.5	63.7	80.2	124.8	159.4	2787.9	5588.3
37027201580000	-78.12169	40.9198	59.5	2190.0	23.1	62.5	78.9	122.3	156.4	2819.9	5717.0
37027201590000	-78.08939	40.9268	62.4	2145.2	24.9	68.1	84.9	133.0	170.2	2666.4	5181.8
37027201600000	-78.02434	40.9321	54.0	2201.3	20.5	55.6	70.9	110.1	140.3	3112.3	6489.5
37027202830000	-77.76441	41.1243	46.1	1497.8	24.8	65.1	84.8	125.7	161.1	2775.4	5526.0
37027202910000	-77.80708	41.0875	46.2	1501.8	24.8	65.0	84.7	125.7	161.1	2773.7	5525.8
37027202920000	-77.80328	41.0917	44.6	1511.8	23.6	62.0	81.1	120.2	153.9	2863.1	5823.4
37027204830000	-77.85585	41.1510	38.7	1682.5	17.7	47.1	62.9	93.4	118.8	3642.4	8415.2
37027204870000	-77.88866	41.0235	43.1	1792.2	19.1	51.3	67.3	101.3	129.1	3403.7	7375.5
37027205820000	-78.03855	40.9695	52.0	2161.6	19.9	54.1	69.4	106.7	136.0	3202.8	6732.5

37027206440000	-77.98700	41.0985	74.1	2516.1	25.9	66.3	85.8	128.7	164.8	2717.4	5381.7
37027206850000	-78.09834	41.1073	33.7	1432.6	17.3	45.7	62.0	91.8	116.5	3848.1	8876.8
37027207770000	-78.03397	41.0705	31.6	1444.1	15.7	41.3	56.9	83.0	105.3	4300.4	9827.1
37027209230000	-77.96745	41.0658	39.4	1489.9	20.4	53.6	71.2	104.9	134.0	3288.3	6991.1
37027209660000	-78.00330	41.0939	38.2	1382.6	21.1	55.1	73.4	108.0	137.9	3195.0	6805.1
37027209680000	-77.99295	41.1033	41.7	1402.7	23.3	60.9	80.3	118.6	151.8	2903.5	5919.8
37027209940000	-77.97385	41.0910	40.8	1328.9	24.0	62.2	82.1	121.0	154.8	2848.4	5784.7
37027209970000	-77.96686	41.1009	38.7	1425.6	20.8	54.2	72.3	106.0	135.5	3254.5	6851.3
37027210210000	-77.95388	41.0030	40.8	1466.4	21.7	56.7	75.1	110.5	141.4	3118.0	6427.9
37027210250000	-77.99176	41.0856	42.0	1422.8	23.2	60.6	79.8	118.0	151.0	2918.0	5955.8
37027210260000	-77.99527	41.0827	40.8	1420.4	22.4	58.6	77.5	114.4	146.3	3015.0	6178.2
37027210300000	-78.05531	41.0925	38.8	1436.2	20.7	54.7	72.7	108.4	138.1	3184.1	6913.4
37027210310000	-77.88686	41.1009	41.8	1561.2	21.0	55.6	73.3	108.6	138.8	3174.0	6569.0
37027210320000	-77.91418	41.0965	37.6	1428.0	20.0	52.0	69.8	101.8	130.0	3389.6	7309.3
37027210330000	-77.98273	41.0866	37.5	1422.5	20.0	52.3	70.1	102.7	131.1	3346.5	7332.5
37027210340000	-77.97806	41.0885	36.6	1395.4	19.8	51.5	69.2	101.2	129.1	3391.3	7520.5
37027210350000	-77.98699	41.0841	39.2	1426.5	21.2	55.4	73.7	108.4	138.5	3183.2	6637.8
37027210360000	-77.90553	41.0973	37.8	1448.1	19.9	51.8	69.5	101.5	129.6	3397.2	7354.0
37027210380000	-77.89420	41.0952	38.9	1447.8	20.7	53.9	71.9	105.3	134.6	3275.3	6888.3
37027210390000	-77.89250	41.0696	41.3	1507.2	21.4	56.2	74.3	109.6	140.1	3144.2	6493.4
37027210410000	-77.88804	41.0690	39.9	1488.3	20.8	54.5	72.4	106.5	136.1	3238.9	6746.2
37027210440000	-77.88350	41.0693	39.5	1454.8	21.0	54.9	73.0	107.2	137.0	3216.8	6674.8
37027210460000	-78.01219	41.1121	37.3	1403.6	20.2	52.8	70.7	104.1	132.8	3291.5	7330.8
37027210470000	-78.05068	41.0799	33.4	1413.1	17.3	45.4	61.7	90.8	115.3	3892.4	8904.3
37027210590000	-77.90964	41.0965	35.1	1408.8	18.5	48.1	65.2	94.7	120.7	3595.4	8187.4
37027210640000	-77.96383	41.0932	35.3	1419.8	18.5	48.2	65.2	95.0	121.0	3593.8	8209.1
37027210650000	-77.96234	41.0990	35.3	1423.4	18.5	48.1	65.1	94.9	120.9	3592.9	8215.0
37027210690000	-78.03674	41.0942	32.5	1421.0	16.5	43.5	59.5	87.4	110.9	4039.2	9315.9
37027210700000	-77.90145	41.0957	39.5	1448.1	21.0	54.9	73.0	107.0	136.8	3221.7	6677.3
37027210730000	-78.03785	41.0887	36.0	1435.6	18.8	49.6	66.6	98.6	125.4	3536.4	8027.5
37027210740000	-78.00966	41.0909	37.9	1404.5	20.5	53.8	71.8	105.8	135.0	3249.8	7093.8
37027210810000	-77.96842	41.0882	29.6	1411.8	14.6	38.0	53.2	76.5	96.9	4752.4	10578.3
37027210870000	-77.98603	41.0789	42.4	1411.2	23.7	61.7	81.2	120.0	153.6	2870.0	5838.5
37027210990000	-77.93334	41.0941	39.5	1451.5	21.0	54.7	72.9	106.9	136.6	3233.4	6692.0
37027211040000	-77.92249	41.0884	33.0	1468.2	16.4	42.8	58.6	85.0	108.1	4181.0	9406.6

37027211250000	-78.04341	41.0826	30.4	1422.8	15.1	39.7	55.0	80.3	101.6	4480.4	10209.5
37027211260000	-78.03226	41.0798	34.8	1432.6	18.0	47.5	64.2	94.4	120.1	3733.1	8449.6
37027211270000	-78.03276	41.0736	40.3	1420.4	22.0	57.8	76.5	113.4	144.8	3046.2	6250.7
37027211280000	-77.95992	41.0940	35.2	1411.2	18.5	48.2	65.2	94.9	121.0	3580.3	8193.3
37027211290000	-77.95922	41.0974	34.5	1399.0	18.2	47.3	64.2	93.2	118.8	3720.2	8393.3
37027211300000	-77.96317	41.0963	38.3	1416.4	20.7	53.8	71.9	105.3	134.5	3277.1	6951.2
37027211310000	-78.03304	41.0827	38.3	1442.0	20.3	53.5	71.3	105.5	134.5	3254.3	7174.6
37027211320000	-78.01656	41.0891	35.1	1408.2	18.6	48.7	65.7	96.5	122.8	3618.0	8197.8
37027211350000	-77.95328	41.0929	37.2	1446.6	19.5	50.9	68.3	99.8	127.4	3442.4	7595.3
37027211430000	-77.95472	41.0986	33.7	1474.3	16.7	43.8	59.8	86.9	110.5	4072.7	9182.9
37027211510000	-78.05781	41.0951	35.9	1472.2	18.2	48.3	65.0	96.6	122.7	3654.0	8290.0
37027211520000	-78.07714	41.0930	41.4	1471.9	22.0	58.4	76.8	115.3	147.1	3008.3	6140.3
37027211530000	-78.08114	41.0931	41.0	1434.4	22.3	58.9	77.6	116.2	148.2	2984.6	6084.3
37027211540000	-78.01475	41.0815	31.3	1434.7	15.5	40.8	56.3	81.9	103.9	4373.4	9945.1
37027211550000	-78.01347	41.0841	36.0	1433.8	18.8	49.4	66.5	97.8	124.6	3536.3	8034.0
37027211560000	-78.00744	41.0841	36.1	1419.8	19.1	50.1	67.3	98.9	126.0	3443.1	7905.5
37027211570000	-78.06773	41.0908	32.7	1435.9	16.5	43.5	59.5	87.7	111.2	4019.4	9319.5
37027211590000	-78.01488	41.0867	36.2	1414.3	19.2	50.4	67.7	99.6	126.9	3410.7	7846.4
37027211600000	-78.01119	41.0805	37.7	1438.1	20.0	52.4	70.0	103.2	131.7	3320.3	7390.2
37027211610000	-78.01052	41.0857	36.6	1418.5	19.5	51.1	68.6	100.9	128.6	3375.7	7702.0
37027211630000	-78.00747	41.0811	34.0	1433.8	17.5	45.8	62.3	91.2	115.9	3866.3	8783.1
37027211730000	-78.00671	41.0776	33.9	1446.6	17.2	45.2	61.5	90.0	114.4	3917.9	8913.0
37027211800000	-78.00253	41.1237	29.7	1394.2	14.8	38.8	54.1	78.3	99.2	4621.8	10410.2
37027211820000	-78.02229	41.0829	29.8	1428.9	14.6	38.3	53.3	77.4	97.9	4688.6	10547.3
37027211840000	-78.00188	41.1278	34.1	1420.4	17.7	46.5	63.1	92.4	117.6	3813.5	8652.8
37027211850000	-78.03653	41.0735	38.9	1419.8	21.0	55.3	73.5	108.8	138.8	3174.3	6778.4
37027212080000	-78.01842	41.0708	37.8	1447.8	19.9	52.4	69.9	103.1	131.5	3321.9	7410.5
37027212090000	-78.07517	41.0888	41.3	1471.9	21.9	58.1	76.5	114.8	146.4	3021.7	6171.8
37027212100000	-78.07297	41.0863	47.1	1481.3	25.7	68.2	88.3	133.5	170.7	2617.7	5160.3
37027212150000	-78.08939	41.0871	40.1	1464.3	21.2	56.2	74.3	111.3	141.8	3115.7	6579.4
37027212200000	-78.08357	41.0860	36.1	1497.8	18.1	48.2	64.7	96.4	122.5	3668.3	8331.0
37027212210000	-78.08178	41.0833	43.8	1486.5	23.4	62.2	81.2	122.4	156.2	2832.5	5721.3
37027212280000	-78.07868	41.0902	34.0	1458.8	17.2	45.4	61.6	91.3	115.8	3878.5	8900.7
37027212310000	-78.04310	41.1043	35.6	1446.0	18.4	48.6	65.4	97.0	123.3	3638.8	8242.7
37031201410000	-79.35115	41.2593	21.7	808.9	15.7	37.6	54.5	73.1	91.4	5136.2	11117.5

37031201680000	-79.37030	41.1916	82.8	2409.9	30.6	71.8	98.9	134.8	170.0	2359.1	5434.4
37031201850000	-79.35800	41.2108	68.4	1762.1	33.7	86.9	111.8	160.6	203.3	2075.8	4150.9
37031201940000	-79.39750	41.1938	60.4	1770.9	29.0	74.9	97.4	139.7	176.5	2213.6	5426.6
37031202470000	-79.49440	41.1584	61.1	1700.2	30.7	79.4	102.7	146.9	185.8	2118.9	5047.9
37031202610000	-79.28010	41.0724	65.2	1954.4	28.8	74.2	97.0	142.2	179.5	2419.5	5006.7
37031204310000	-79.23270	41.3315	62.8	1707.8	31.5	82.0	105.6	152.8	193.2	2187.9	4619.2
37031205540000	-79.37267	41.3576	27.2	919.3	19.8	48.5	67.8	92.9	116.7	3680.8	9013.9
37031205920000	-79.59130	41.2113	69.0	2265.6	26.5	62.8	83.8	115.9	146.1	2826.0	7182.4
37031206720000	-79.53030	41.3285	58.4	2063.5	24.0	60.5	80.7	114.1	143.8	2824.9	7183.8
37031207510000	-79.26590	41.3984	60.9	2229.3	23.3	55.1	77.2	105.1	132.1	3166.6	7749.3
37031231970000	-79.21440	41.1671	39.7	1676.4	18.3	48.6	66.2	96.1	120.3	3552.4	8864.7
37031236050000	-79.29667	41.0315	25.0	1003.4	16.0	39.2	57.0	78.0	97.2	4642.8	10610.9
37031236210000	-79.28650	41.0305	28.2	1036.0	18.6	45.9	65.3	90.2	112.9	3863.5	9256.3
37031236410000	-79.27712	41.1903	24.8	950.4	16.7	41.5	58.8	79.7	100.0	4608.9	10480.6
37031236460000	-79.29864	41.0246	26.5	990.6	17.7	43.4	62.2	85.4	106.7	4163.4	9780.1
37031236520000	-79.28996	41.0315	28.8	996.7	19.9	48.8	69.0	95.3	119.5	3578.8	8704.2
37031236550000	-79.28738	41.0277	28.7	1020.5	19.3	47.6	67.5	93.3	116.9	3667.0	8924.8
37031236640000	-79.30018	41.0305	28.6	981.2	20.0	48.9	69.1	95.4	119.6	3570.6	8687.8
37031236650000	-79.29728	41.0287	26.7	966.2	18.4	44.8	64.0	87.9	109.9	4021.7	9488.5
37031236880000	-79.29625	41.0224	27.4	971.7	18.9	46.2	65.7	90.4	113.2	3852.9	9223.5
37031237060000	-79.58369	41.0704	29.6	1056.4	19.5	49.2	68.2	94.5	118.6	3583.3	8933.0
37031237250000	-79.45975	41.0323	22.0	869.3	15.0	36.3	52.9	71.2	88.9	5310.0	11352.3
37031237290000	-79.35523	41.0811	21.6	840.6	15.0	35.5	52.7	71.0	88.2	5300.2	11339.8
37031237360000	-79.36134	41.0750	23.4	848.6	17.0	40.2	58.7	79.5	99.2	4535.2	10352.0
37031237370000	-79.29150	41.0259	41.5	1532.2	21.2	56.2	75.4	109.2	137.2	2994.1	7629.7
37031237400000	-79.33175	41.0595	24.7	902.8	17.4	41.6	60.7	82.6	103.1	4332.7	10004.3
37031240530000	-79.35670	41.0300	28.1	1023.5	18.6	45.9	65.4	90.2	113.0	3860.2	9241.7
37033000930000	-78.68990	41.0724	89.8	2156.2	37.5	98.1	123.8	188.0	241.1	1943.4	3296.7
37033200110000	-78.77900	40.9366	85.9	2305.5	33.4	87.5	108.2	175.9	223.8	2130.1	3848.9
37033200390000	-78.34400	41.0452	87.7	2396.3	32.8	85.7	107.0	169.4	216.3	2218.9	3796.6
37033200650000	-78.45410	41.2012	81.5	2137.3	33.9	89.5	112.8	174.2	223.0	2120.3	3627.0
37033200800000	-78.39500	41.2212	61.8	1767.8	29.9	78.3	101.6	151.6	193.9	2367.3	4443.3
37033200900000	-78.65420	41.1069	31.3	975.4	22.9	53.3	75.9	104.6	133.0	3180.8	7175.5
37033200920000	-78.64405	41.1010	77.8	2192.7	31.4	81.0	104.7	157.8	200.4	2277.8	4237.6
37033201850000	-78.55070	41.1883	75.9	2231.8	30.0	78.3	100.3	152.1	194.5	2374.2	4426.2

37033203250000	-78.74530	41.0779	89.9	2315.6	34.9	89.7	114.9	173.6	221.2	2088.4	3836.2
37033203260000	-78.77070	41.0708	31.1	1088.1	20.4	49.3	70.4	97.9	123.6	3493.7	8161.6
37033203320000	-78.75980	41.0733	35.7	1093.6	24.4	59.2	82.7	116.0	147.0	2857.4	6451.6
37033203560000	-78.43980	40.8643	92.7	2481.1	33.7	87.9	109.5	175.8	223.9	2175.9	3687.6
37033203590000	-78.76520	41.1055	88.0	2212.5	35.7	91.8	117.8	178.2	226.5	2036.3	3740.1
37033203630000	-78.34640	40.9570	80.9	2461.3	29.2	76.3	95.9	154.2	195.9	2469.0	4352.1
37033203650000	-78.71050	40.8015	90.1	2498.8	32.4	86.2	105.5	175.0	222.2	2175.7	3794.3
37033203660000	-78.32370	40.9528	77.9	2421.6	28.4	74.5	93.6	150.9	191.6	2518.7	4467.6
37033203770000	-78.66850	41.1759	95.1	2270.2	37.9	97.7	124.4	188.2	240.3	1938.8	3315.2
37033203820000	-78.52590	41.0019	86.5	2313.4	33.5	87.0	110.7	168.4	215.6	2167.7	3897.7
37033203870000	-78.76460	40.7403	82.6	2544.5	28.9	76.5	94.6	153.9	195.7	2489.5	4362.6
37033205080000	-78.30830	40.9353	73.0	2448.2	26.2	68.4	86.7	139.5	176.9	2709.8	4917.9
37033205370000	-78.27810	40.9463	74.5	2503.6	26.2	68.2	86.6	139.1	176.3	2720.1	4937.3
37033205380000	-78.32730	40.9205	75.3	2457.9	27.0	70.5	89.2	143.2	181.7	2640.5	4762.6
37033205710000	-78.72270	40.9917	81.2	2272.6	31.8	83.7	104.2	166.4	212.2	2266.2	3935.2
37033205820000	-78.68120	41.1658	82.6	2304.6	31.9	82.0	105.8	159.7	203.0	2261.0	4179.6
37033205860000	-78.72970	40.9867	81.2	2272.0	31.8	83.9	104.2	167.5	213.4	2265.8	3878.5
37033205870000	-78.69420	40.9981	77.0	2374.4	28.6	74.3	95.1	145.9	186.3	2496.9	4650.0
37033206070000	-78.72480	41.0038	67.5	2298.5	25.5	66.8	85.1	133.2	169.6	2752.6	5186.9
37033206090000	-78.63740	41.2488	72.1	2035.2	31.0	81.5	104.6	158.0	201.5	2271.2	4233.2
37033206200000	-78.30250	40.9225	81.9	2441.5	29.9	78.1	97.9	158.1	200.8	2419.5	4218.5
37033206340000	-78.32080	40.9307	77.6	2462.5	27.9	72.8	91.8	148.1	187.8	2571.4	4573.2
37033206510000	-78.74460	41.0278	85.7	2204.9	34.8	91.1	115.2	176.2	225.7	2084.6	3561.5
37033206540000	-78.71490	40.9971	75.4	2314.4	28.7	75.2	94.8	149.1	190.1	2478.8	4533.7
37033207030000	-78.72120	41.0290	88.5	2212.5	36.0	94.1	118.8	182.1	233.3	2027.0	3438.9
37033207050000	-78.70070	41.0131	71.8	2356.1	26.7	69.4	89.0	137.1	174.8	2654.6	5008.3
37033207670000	-78.31450	40.9229	79.0	2504.5	27.9	72.8	91.9	148.2	187.9	2572.7	4569.2
37033209170000	-78.31840	40.9377	82.2	2494.8	29.4	76.6	96.2	155.6	197.5	2463.1	4303.0
37033209700000	-78.32520	41.0056	76.2	2424.7	27.7	72.4	91.5	145.6	185.2	2574.6	4664.8
37033211790000	-78.32380	40.9123	85.0	2575.0	29.5	76.5	96.5	154.6	196.4	2462.6	4336.8
37033212120000	-78.50910	41.0629	87.9	2278.1	34.7	90.6	113.8	176.7	226.3	2101.8	3563.1
37033212920000	-78.79380	41.0715	74.7	2211.0	29.7	76.9	99.5	149.6	190.4	2393.5	4512.6
37033213960000	-78.30870	41.1664	67.1	2243.6	25.9	68.2	86.5	136.2	173.4	2696.3	5052.0
37033214460000	-78.30180	40.9490	74.1	2441.1	26.7	69.7	88.3	141.5	179.5	2664.0	4833.3
37033216340000	-78.30950	41.1721	65.4	2315.6	24.4	63.9	81.6	128.1	162.9	2862.6	5441.9

37033217390000	-78.31730	41.1717	82.6	2308.0	31.9	83.6	104.5	165.0	210.7	2264.4	4014.5
37033218780000	-78.51820	41.0630	72.7	2242.1	28.4	74.5	94.7	146.8	187.4	2488.0	4618.1
37033219230000	-78.32130	41.1656	78.7	2306.7	30.2	79.3	99.3	157.3	200.6	2371.7	4251.4
37033220140000	-78.31510	41.1630	76.0	2321.4	28.9	75.8	95.2	151.0	192.3	2467.0	4466.4
37033222790000	-78.29870	41.1718	73.4	2299.7	28.0	73.5	92.6	146.6	186.8	2528.7	4624.7
37033222800000	-78.30020	41.1661	72.9	2279.3	28.1	73.9	92.9	147.5	187.8	2519.5	4592.4
37033222810000	-78.33610	41.1580	74.5	2334.8	28.0	73.4	92.7	146.2	186.3	2532.5	4639.5
37033223770000	-78.35820	41.1513	73.9	2331.4	27.8	72.6	92.6	143.3	182.8	2549.2	4753.3
37033224630000	-78.32780	41.1711	79.4	2292.4	30.7	80.6	100.9	159.5	203.6	2336.2	4179.7
37033225030000	-78.55230	41.0197	31.4	981.2	22.8	52.9	74.8	104.6	133.0	3205.4	7120.9
37033228780000	-78.50360	40.8403	73.5	2511.9	25.7	67.1	85.1	137.6	174.2	2766.5	5003.4
37033230220000	-78.49210	41.2056	64.4	2183.0	25.4	66.6	86.3	130.9	166.8	2736.8	5286.4
37033230960000	-78.31350	40.9970	67.7	2393.6	24.5	64.2	81.9	130.2	165.2	2864.4	5345.3
37033231720000	-78.33250	40.9288	71.8	2516.4	25.0	65.0	82.9	133.0	168.4	2839.8	5215.5
37033232400000	-78.77230	41.0815	66.7	2263.8	25.5	65.7	86.2	129.2	163.7	2749.4	5447.6
37033232450000	-78.31060	40.8985	71.8	2508.5	25.0	65.1	83.1	132.8	168.3	2833.5	5222.3
37033235980000	-78.51270	40.7990	49.5	1676.1	24.1	60.7	79.8	122.5	155.5	3038.1	5748.1
37033236480000	-78.73438	41.0848	29.2	1067.4	18.9	46.8	66.8	92.5	115.9	3731.9	8983.2
37033236960000	-78.70591	41.1019	27.1	1036.9	17.5	42.8	62.0	85.4	106.9	4155.2	9717.6
37033236970000	-78.70231	41.1007	32.2	1040.6	22.3	54.5	76.9	107.0	134.7	3105.2	7461.1
37033237100000	-78.70349	41.0937	26.7	1006.8	17.6	42.7	62.1	85.4	106.9	4155.2	9683.7
37033240800000	-78.31060	41.1767	61.2	2345.7	22.3	58.2	75.2	117.0	148.7	3105.6	6072.5
37033242920000	-78.78914	40.9611	25.3	1064.4	15.3	35.1	50.8	73.3	92.1	5025.7	10888.5
37033248700000	-78.77306	40.9536	25.6	1090.0	15.2	35.3	51.1	73.9	92.9	4974.4	10845.0
37033248750000	-78.76810	40.9533	27.8	1089.7	17.3	40.1	56.9	82.9	104.5	4302.6	9595.8
37033249090000	-78.80350	40.9263	26.9	980.5	18.3	41.0	58.2	84.5	106.5	4203.7	9216.7
37033249330000	-78.68093	40.9729	29.8	1158.9	18.0	44.2	63.5	88.3	111.2	3992.3	9252.9
37033249440000	-78.68689	40.9632	25.1	1009.5	15.9	37.6	56.0	75.9	95.5	4797.0	10613.0
37033249450000	-78.68450	40.9653	28.1	1028.4	18.6	44.2	64.2	88.0	111.1	4005.7	9134.3
37033249480000	-78.67276	40.9274	31.2	1048.2	21.2	49.9	71.4	98.7	125.3	3393.4	7825.2
37033249680000	-78.71177	40.9212	31.1	1085.7	20.4	47.4	65.8	96.7	122.3	3593.0	7918.7
37033249730000	-78.68169	40.9675	27.8	1046.1	18.0	43.0	62.5	85.9	108.3	4126.0	9425.3
37033249790000	-78.78885	40.9675	25.0	1000.4	16.0	36.1	52.2	75.3	94.7	4857.6	10566.1
37033249820000	-78.73594	40.9140	28.0	1016.5	18.7	42.3	59.7	86.9	109.7	4056.3	8922.0
37033249830000	-78.68480	40.9581	26.2	1010.4	17.0	40.1	59.2	80.5	101.5	4467.5	10011.5

37033249880000	-78.78221	40.9709	26.2	965.0	17.8	40.0	57.0	82.8	104.3	4312.0	9510.7
37033250140000	-78.76775	40.9423	29.5	1090.6	18.8	43.3	60.9	89.0	112.4	3944.6	8719.7
37033250160000	-78.74449	40.9650	23.6	938.2	15.5	35.2	51.2	72.9	91.8	5057.9	10922.6
37033250170000	-78.74816	40.9305	26.0	992.4	17.1	38.4	55.0	79.6	100.2	4529.1	9901.7
37033250180000	-78.73984	40.9679	23.6	983.3	14.9	34.2	49.9	70.8	89.0	5250.8	11244.0
37033250190000	-78.75731	40.9377	30.3	983.0	21.7	48.6	67.5	98.9	125.2	3531.6	7410.3
37033250200000	-78.77296	40.9293	27.6	992.4	18.8	42.2	59.7	86.8	109.5	4063.6	8902.6
37033250240000	-78.79024	40.9312	29.4	955.2	21.3	47.6	66.4	97.1	122.8	3595.4	7611.9
37033250250000	-78.72861	40.9619	25.7	973.8	17.2	39.3	56.2	80.5	101.6	4467.3	9891.0
37033250260000	-78.79786	40.9472	25.8	1020.2	16.5	37.4	53.7	77.7	97.8	4667.8	10223.4
37033250270000	-78.78829	40.9417	26.8	1011.0	17.6	39.9	56.8	82.4	103.9	4334.1	9551.0
37033250370000	-78.76035	40.9261	26.1	959.8	17.8	39.8	56.7	82.2	103.6	4349.8	9510.2
37033250390000	-78.73381	40.9278	28.1	1066.2	17.9	41.0	58.1	84.5	106.6	4199.0	9284.9
37033250400000	-78.73853	40.9208	25.8	982.4	17.1	38.4	55.1	79.6	100.3	4525.9	9896.5
37033250550000	-78.77668	40.9093	26.9	1019.6	17.6	39.7	56.6	82.1	103.4	4358.1	9569.6
37033250570000	-78.70429	40.9402	27.8	1004.3	18.7	43.3	61.1	87.6	111.0	4023.6	8997.7
37033250610000	-78.71248	40.9589	28.5	976.9	20.0	46.1	64.8	92.6	117.5	3690.8	8378.3
37033250630000	-78.70942	40.9383	27.8	1002.5	18.7	43.1	60.8	87.7	110.9	4016.6	8963.4
37033250660000	-78.80314	40.9403	27.7	994.6	18.8	42.4	59.9	87.1	109.9	4044.9	8895.9
37033250770000	-78.80383	40.9474	30.4	1031.8	20.7	47.3	65.8	96.5	122.1	3600.1	7777.1
37033251140000	-78.80180	40.9311	24.5	964.1	16.1	35.9	52.0	74.8	94.0	4901.3	10604.6
37033251190000	-78.71385	40.9491	27.8	965.6	19.5	44.5	62.6	90.3	114.4	3827.0	8610.2
37033251240000	-78.74204	40.9691	25.8	936.7	17.9	40.7	58.0	82.9	104.8	4305.6	9550.2
37033251250000	-78.73605	40.9719	25.7	935.1	17.9	40.9	58.7	82.9	104.9	4309.1	9570.5
37033251350000	-78.79664	40.9302	26.0	955.9	17.8	39.8	56.8	82.3	103.7	4345.0	9516.1
37033251430000	-78.73392	40.9766	26.9	940.0	19.1	43.8	63.2	87.8	111.3	4013.9	8961.3
37033251460000	-78.73492	40.9787	25.7	931.2	17.9	41.1	60.1	82.8	104.7	4314.8	9601.0
37033251520000	-78.71691	40.9647	25.4	907.7	18.0	40.9	58.9	82.9	104.9	4310.1	9555.0
37033251640000	-78.76502	40.9294	27.6	908.0	20.5	45.9	64.0	93.6	118.4	3719.0	8002.8
37033251670000	-78.65554	40.9294	29.1	1018.3	19.7	46.7	67.6	92.7	117.2	3743.3	8572.8
37033251680000	-78.77969	40.9555	29.2	981.5	20.5	46.5	64.9	95.1	120.2	3667.3	7960.5
37033251690000	-78.73171	40.9231	28.9	1046.4	19.0	43.5	61.1	89.2	112.7	3932.2	8656.7
37033251780000	-78.68025	40.9714	28.9	1046.4	19.0	45.6	65.9	90.9	114.6	3876.6	8871.9
37033251790000	-78.71449	40.9747	27.6	992.1	18.8	43.8	63.7	87.5	110.7	4036.8	9073.1
37033251810000	-78.70942	40.9648	25.1	928.4	17.3	39.7	58.2	80.3	101.4	4481.6	9927.4

37033251830000	-78.72830	40.9698	25.9	945.2	17.9	40.9	58.8	82.9	104.9	4310.0	9581.4
37033251840000	-78.73169	40.9676	27.1	990.9	18.2	42.0	59.5	85.3	107.9	4159.7	9284.8
37033251850000	-78.72582	40.9706	27.8	965.0	19.5	44.9	64.1	90.2	114.4	3847.9	8675.3
37033251870000	-78.71167	40.9772	27.0	986.6	18.3	42.6	62.3	85.0	107.5	4178.0	9388.8
37033251880000	-78.70860	40.9770	29.3	1033.3	19.7	46.4	67.0	91.9	116.5	3744.4	8599.7
37033251900000	-78.72993	40.9710	25.2	973.8	16.6	38.3	55.6	77.9	98.5	4648.1	10255.3
37033251920000	-78.72817	40.9646	26.7	964.7	18.4	42.0	59.5	85.4	108.0	4153.2	9247.8
37033252010000	-78.71764	40.9680	24.8	909.2	17.4	39.6	57.7	80.3	101.5	4482.8	9910.4
37033252140000	-78.72805	40.9679	25.8	982.4	17.1	39.5	56.7	80.4	101.7	4471.7	9921.1
37033252150000	-78.72606	40.9673	29.3	992.1	20.5	47.3	66.3	94.9	120.4	3595.4	8123.1
37033252160000	-78.72388	40.9667	23.3	957.7	14.9	34.2	50.2	70.5	88.8	5272.9	11269.9
37033252250000	-78.72957	40.9760	25.8	936.4	17.9	41.1	60.0	82.8	104.7	4314.8	9602.8
37033252260000	-78.73164	40.9766	26.7	926.3	19.1	43.8	63.4	87.9	111.3	4011.1	8948.9
37033252270000	-78.73269	40.9785	25.5	954.6	17.2	39.8	58.4	80.3	101.5	4480.5	9946.1
37033252290000	-78.72383	40.9699	24.4	918.1	16.8	38.2	55.8	77.7	98.2	4663.8	10254.4
37033252380000	-78.72177	40.9693	25.6	964.1	17.2	39.6	57.5	80.4	101.6	4476.0	9930.6
37033252400000	-78.71972	40.9687	24.7	900.4	17.4	39.6	57.7	80.2	101.4	4483.9	9906.0
37033252430000	-78.74436	40.9271	25.3	1027.2	15.9	36.0	52.1	75.1	94.4	4874.9	10585.5
37033252440000	-78.73424	40.9728	24.8	909.5	17.4	39.5	57.3	80.3	101.5	4481.6	9901.9
37033252460000	-78.70682	40.9648	25.8	935.7	17.9	41.1	60.3	82.8	104.7	4315.9	9610.3
37033252470000	-78.70800	40.9631	26.1	917.5	18.6	42.5	61.7	85.4	108.1	4156.1	9256.3
37033252500000	-78.70960	40.9615	25.6	927.2	17.9	41.0	59.4	82.8	104.8	4312.2	9581.0
37033252510000	-78.72278	40.9652	26.6	954.6	18.4	42.1	59.9	85.4	108.1	4154.5	9253.3
37033252530000	-78.74081	40.9198	26.9	982.4	18.3	40.9	58.2	84.4	106.4	4208.8	9220.8
37033252600000	-78.76860	40.9383	27.9	1010.7	18.7	42.3	59.7	86.9	109.7	4054.6	8914.9
37033252640000	-78.75858	40.9804	27.8	1001.3	18.7	43.3	61.0	87.6	111.0	4021.8	8988.8
37033252670000	-78.70682	40.9614	25.8	935.7	17.9	41.1	59.8	82.8	104.7	4314.2	9598.8
37033252730000	-78.67619	40.9772	30.9	1073.2	20.5	49.5	70.6	98.3	124.0	3486.9	8131.4
37033252870000	-78.65963	40.9295	24.4	1029.3	15.0	35.5	53.2	72.0	90.4	5121.0	11125.8
37033253080000	-78.71826	40.9715	24.7	900.1	17.4	39.7	58.4	80.2	101.4	4485.6	9920.5
37033253090000	-78.71214	40.9701	25.5	920.2	18.0	41.2	60.5	82.8	104.7	4315.6	9602.2
37033253170000	-78.72820	40.9772	23.9	919.0	16.2	37.0	55.1	75.1	94.7	4862.2	10618.1
37033253220000	-78.73618	40.9303	30.1	971.7	21.8	48.7	67.7	99.2	125.5	3521.4	7388.9
37033253450000	-78.74565	40.9141	26.7	1007.7	17.6	39.7	56.6	82.0	103.3	4363.4	9566.9
37033253470000	-78.73272	40.9193	28.0	1019.3	18.7	42.3	59.7	87.0	109.8	4051.3	8924.2

37033253480000	-78.71081	40.9344	27.6	949.2	19.6	44.5	62.6	90.6	114.6	3828.5	8562.2
37033253810000	-78.73554	40.9649	31.2	1010.4	22.0	50.7	70.1	101.9	129.4	3342.5	7327.1
37033253850000	-78.73641	40.9687	27.2	957.4	19.0	43.4	61.2	87.8	111.3	4009.5	8931.7
37033253990000	-78.72213	40.9710	24.3	909.8	16.8	38.3	56.2	77.7	98.1	4667.1	10260.6
37033254000000	-78.73040	40.9744	26.2	926.3	18.5	42.4	61.4	85.4	108.1	4155.7	9258.7
37033254030000	-78.72825	40.9747	25.9	949.2	17.8	41.1	59.8	82.8	104.7	4314.1	9608.7
37033254910000	-78.28480	40.9328	80.8	2444.5	29.4	76.7	96.4	154.9	196.9	2455.2	4326.8
37033266360000	-78.47000	40.9964	45.4	1681.6	21.6	56.4	75.9	110.8	140.8	2973.6	7008.2
37035200270000	-77.87290	41.4264	52.9	1662.4	26.4	81.6	98.4	162.4	207.0	2012.4	4088.1
37035200390000	-77.69028	41.1809	69.5	2581.4	23.4	52.3	77.5	104.6	133.0	3223.2	6837.5
37035200780000	-77.87289	41.4233	67.0	1961.1	29.6	80.9	101.8	157.1	201.3	2583.9	4263.7
37035200800000	-77.73588	41.4754	65.7	2075.7	27.3	69.8	92.2	135.3	173.4	2001.6	5074.3
37035200810000	-77.74299	41.4650	107.9	2071.1	47.8	122.2	155.3	231.2	298.4	1790.5	2952.3
37035200820000	-77.75082	41.4665	63.2	2042.5	26.6	68.8	90.3	133.5	171.0	2864.7	5157.4
37035200850000	-77.84792	41.4404	58.1	1964.4	25.0	68.1	87.2	133.1	170.2	2726.2	5178.9
37035200920000	-77.84008	41.4475	58.3	1921.2	25.6	71.1	89.9	139.0	177.8	2537.9	4922.9
37035200970000	-77.81392	41.4578	61.4	1965.1	26.7	73.3	92.8	143.1	183.1	2185.5	4756.9
37035200990000	-77.81036	41.4627	57.8	1931.5	25.3	70.1	88.7	137.3	175.6	2809.7	4994.8
37035201050000	-77.76660	41.4556	62.0	2087.6	25.4	64.1	85.8	124.6	159.5	3108.9	5590.0
37035201060000	-77.75967	41.4624	59.4	2053.1	24.6	63.3	83.9	123.3	157.7	3103.4	5660.9
37035201080000	-77.81903	41.4556	59.2	1965.7	25.6	69.9	89.1	136.6	174.7	3292.2	5024.1
37035201140000	-77.89170	41.4227	58.8	1978.2	25.2	67.5	87.2	131.7	168.5	2943.3	5241.9
37035201160000	-77.83388	41.4546	58.3	1991.6	24.8	66.1	85.7	128.9	165.0	2807.9	5373.2
37035201170000	-77.84992	41.4051	63.0	2217.7	24.4	55.1	80.0	109.7	139.7	3093.3	6522.7
37035201200000	-77.80918	41.4679	56.7	1996.4	23.9	63.4	82.8	123.8	158.3	3930.2	5634.6
37035201240000	-77.80042	41.4728	56.8	2008.0	23.8	62.8	82.4	122.7	156.9	2753.5	5694.4
37035201260000	-77.84609	41.4108	64.8	2098.6	26.6	67.0	89.5	130.0	166.5	2685.7	5317.2
37035201290000	-77.85011	41.4468	58.2	2034.2	24.2	62.9	83.0	122.6	156.8	3103.0	5697.4
37035201320000	-77.83911	41.4136	64.1	2140.9	25.7	63.3	86.2	123.2	157.7	4775.4	5663.2
37035201360000	-77.83607	41.4153	64.4	2049.5	27.0	69.6	91.6	134.9	172.9	2661.1	5093.5
37035201780000	-77.94399	41.3585	60.2	2280.5	22.4	52.1	75.0	102.9	131.1	3291.5	7084.2
37035201870000	-77.88594	41.4240	78.7	1966.6	35.4	96.2	120.0	184.9	237.7	1025.7	3402.2
37035201980000	-77.84756	41.4371	59.6	2012.9	25.2	67.0	86.9	130.8	167.3	2988.9	5285.6
37035202760000	-77.56662	41.3713	186.3	5900.6	30.1	73.3	103.1	141.4	181.4	2486.6	4820.9
37035203750000	-77.60256	41.3552	101.2	4106.6	22.5	54.2	77.9	105.9	135.3	3135.8	6756.4

37035204360000	-77.64694	41.2808	38.8	1339.9	22.2	67.9	87.1	136.6	173.6	2833.1	5040.8
37035204390000	-77.74883	41.4694	71.2	2059.8	30.2	77.2	101.0	148.6	190.7	2430.8	4550.3
37035204410000	-77.74647	41.4750	71.1	2047.0	30.3	78.0	101.7	150.1	192.7	2466.0	4496.1
37035205060000	-77.65100	41.2579	33.2	1430.4	16.9	51.8	67.6	106.0	134.0	2508.7	6970.7
37035205130000	-77.73992	41.1403	43.1	1471.3	23.2	71.0	89.5	143.2	182.0	2743.8	4759.6
37035206130000	-77.66362	41.2498	34.3	1433.2	17.7	54.1	70.3	110.5	139.9	2538.9	6527.2
37035206410000	-77.72250	41.2654	33.9	1302.7	19.1	58.3	76.1	117.9	149.6	2515.0	6019.4
37035206730000	-77.67943	41.2456	55.9	1381.7	34.0	104.0	128.2	205.3	262.4	2013.1	2528.5
37035206930000	-77.43659	41.2405	50.2	1894.0	21.8	67.3	81.8	140.2	176.9	2841.2	4896.3
37035207060000	-77.74145	41.3087	39.5	1527.1	20.0	61.5	77.5	124.1	157.6	3239.6	5657.5
37035207380000	-77.70420	41.2245	33.4	1453.3	16.8	51.5	67.3	105.8	133.7	2515.4	6967.5
37035207410000	-77.69437	41.2283	39.5	1447.8	21.0	64.5	82.3	130.6	165.8	2950.1	5321.8
37035207750000	-77.74529	41.1337	33.9	1446.6	17.2	52.8	68.6	107.9	136.5	2457.0	6756.9
37035207760000	-77.74554	41.1292	33.6	1419.5	17.3	53.1	69.3	108.6	137.4	2512.8	6671.4
37035208510000	-77.69474	41.1687	76.6	2663.3	25.4	56.6	83.3	112.7	143.5	2898.0	6257.0
37035208520000	-77.81354	41.4191	70.7	2210.7	27.9	66.1	91.8	128.2	164.2	2693.3	5398.1
37035209160000	-77.71769	41.2581	64.5	2420.1	22.9	53.7	76.8	106.7	135.9	3120.9	6711.5
37039200640000	-80.34506	41.7297	62.2	2115.6	25.1	52.2	76.9	103.3	128.4	3302.9	8285.8
37039200900000	-80.46402	41.8166	53.4	1934.9	22.9	47.8	69.9	94.0	117.2	3860.8	9238.5
37039201080000	-80.38764	41.7582	32.8	1172.0	20.3	43.7	64.5	86.7	108.1	4286.6	9908.3
37039201170000	-80.40635	41.7851	53.3	1924.8	23.0	47.9	70.4	94.6	117.8	3794.6	9130.1
37039201190000	-80.44547	41.8375	52.4	1887.0	23.0	47.8	69.8	93.9	117.0	3865.3	9245.9
37039201310000	-79.88995	41.8367	81.2	2266.8	31.8	67.4	98.1	132.6	164.6	2268.5	5988.5
37039201360000	-80.43041	41.7727	56.0	1919.9	24.5	52.0	75.4	101.7	126.6	3458.0	8559.9
37039201510000	-79.93538	41.8246	83.4	2196.4	33.9	72.6	104.4	141.5	175.8	2177.8	5522.9
37039201530000	-80.35148	41.7734	62.6	2102.5	25.5	53.1	77.8	104.7	130.1	3256.7	8202.8
37039201700000	-80.40304	41.7678	33.8	1161.0	21.3	45.9	67.3	90.5	112.8	4064.7	9565.1
37039201750000	-80.44674	41.8107	57.8	1874.2	26.1	53.9	78.0	105.2	130.9	3285.2	8254.2
37039201760000	-80.46787	41.8241	29.5	1092.7	18.8	40.7	59.9	80.6	100.7	4716.0	10539.3
37039201800000	-80.45391	41.8363	53.1	1844.3	23.9	49.5	72.0	97.1	120.9	3696.4	8967.0
37039201880000	-80.18721	41.8240	65.4	2097.0	26.9	55.8	81.8	110.1	136.8	2982.3	7695.5
37039204290000	-80.01871	41.8337	36.8	1314.3	21.1	45.9	68.3	91.6	113.9	3955.4	9391.4
37039208290000	-79.98829	41.5449	45.2	1612.7	22.4	48.9	73.0	99.6	123.4	3351.3	8448.5
37039209070000	-80.41167	41.7903	62.8	2058.9	26.1	54.9	79.4	107.1	133.3	3198.2	8096.7
37039211150000	-80.04897	41.4896	51.1	1696.8	24.8	54.5	80.4	110.7	137.2	2983.1	7464.7

37039211780000	-80.11621	41.5378	55.8	1721.8	27.2	60.4	87.9	121.0	150.0	2689.0	6758.7
37039211830000	-80.24244	41.7922	56.7	1757.2	27.1	59.9	86.0	116.3	144.7	2706.2	7415.6
37039211840000	-80.06763	41.6124	57.4	1772.7	27.3	60.6	88.2	121.0	150.1	2678.4	6778.1
37039211990000	-80.13595	41.5019	55.9	1730.0	27.1	60.2	87.7	120.8	149.8	2696.6	6757.2
37039212100000	-80.16589	41.5101	57.3	1768.4	27.3	60.7	88.4	121.5	150.8	2672.3	6718.4
37039212110000	-79.98283	41.6094	55.1	1712.1	26.9	59.8	87.2	119.6	148.4	2714.7	6887.2
37039212120000	-80.34940	41.5128	44.1	1414.6	24.8	53.2	78.6	106.5	132.2	3063.7	7900.8
37039214310000	-79.97184	41.5138	55.2	1721.8	26.8	59.0	86.4	119.6	148.2	2739.9	6740.0
37039215070000	-80.00292	41.4912	51.5	1686.5	25.2	55.2	81.3	112.0	138.8	2942.3	7342.0
37039217280000	-79.69175	41.7090	54.2	1679.5	26.9	59.3	86.7	119.6	148.2	2730.6	6788.4
37039217520000	-79.62216	41.7199	51.6	1694.7	25.1	55.4	81.5	112.3	139.1	2933.3	7364.3
37039217530000	-79.61685	41.7254	51.1	1704.4	24.7	54.5	80.4	110.6	137.1	2983.8	7496.5
37039217650000	-80.31049	41.5940	44.3	1384.7	25.5	55.0	80.8	109.2	135.6	2965.5	7739.9
37039218890000	-80.04568	41.5245	48.6	1522.8	26.0	56.0	82.5	112.8	139.8	2890.8	7295.8
37039220330000	-80.19143	41.8137	40.8	1282.0	24.8	54.1	78.7	106.1	132.1	3237.6	8168.4
37039220520000	-80.17324	41.5699	44.5	1503.6	23.6	51.0	75.8	103.0	127.7	3203.0	8165.7
37039223300000	-79.61447	41.7223	54.7	1694.7	27.0	59.4	86.9	119.9	148.7	2723.9	6752.6
37039223760000	-79.92580	41.5457	43.7	1384.7	25.1	51.1	76.9	104.8	129.7	3153.2	7725.6
37039223870000	-79.63725	41.6310	54.1	1720.6	26.2	57.7	84.6	117.0	144.9	2808.3	6951.7
37039224060000	-79.91904	41.5634	53.1	1676.4	26.3	57.6	84.5	116.6	144.5	2810.9	6982.7
37039224370000	-79.62274	41.6218	51.5	1686.8	25.2	55.0	81.2	111.9	138.6	2948.9	7323.1
37039224420000	-79.63744	41.6394	52.4	1723.0	25.2	55.2	81.5	112.6	139.4	2935.9	7269.9
37039224470000	-79.98253	41.7709	43.1	1375.0	24.8	53.6	78.9	106.4	132.2	3050.5	7999.7
37039224490000	-79.93457	41.5429	45.7	1458.5	25.2	52.2	78.1	106.7	132.1	3091.3	7615.1
37039224650000	-79.93183	41.5441	55.8	1727.6	27.1	59.7	87.3	120.9	149.8	2708.5	6656.4
37039224930000	-79.91446	41.5611	53.9	1704.8	26.4	57.9	85.0	117.4	145.4	2795.2	6923.4
37039225050000	-79.93110	41.5489	50.9	1424.9	29.4	60.5	89.3	122.6	151.9	2618.7	6318.5
37039225340000	-79.64882	41.7507	53.1	1680.1	26.3	57.9	84.8	116.8	144.8	2800.5	7025.2
37039225370000	-79.91008	41.5645	53.7	1686.8	26.5	58.1	85.3	117.7	145.8	2783.5	6890.8
37039225820000	-79.63835	41.6351	53.2	1740.7	25.4	55.7	82.1	113.6	140.6	2910.4	7188.0
37039226910000	-80.03960	41.7854	43.9	1349.7	25.8	56.0	82.0	110.5	137.3	2880.9	7698.1
37039226970000	-79.62802	41.6851	52.3	1706.3	25.4	55.8	82.1	113.3	140.3	2909.9	7253.2
37039228140000	-79.62270	41.7140	52.2	1699.3	25.4	56.0	82.4	113.5	140.6	2898.6	7256.5
37039228190000	-79.61884	41.6718	54.5	1705.4	26.7	58.7	85.9	118.7	147.1	2759.2	6819.3
37039229150000	-79.91044	41.5578	53.1	1681.0	26.3	57.3	84.2	116.2	144.0	2822.1	6983.0

37039229240000	-79.62749	41.6689	51.4	1724.6	24.6	54.1	79.8	110.1	136.3	3008.6	7506.4
37039229250000	-79.91610	41.5567	53.2	1687.4	26.2	57.3	84.2	116.2	144.0	2823.9	6996.8
37039229390000	-79.91465	41.5713	53.1	1679.1	26.3	57.5	84.5	116.5	144.4	2813.1	6987.2
37039229400000	-79.91886	41.5691	53.1	1677.6	26.3	57.6	84.5	116.5	144.4	2812.5	6984.1
37039229540000	-79.61631	41.6639	52.4	1716.3	25.3	55.6	81.9	113.0	139.9	2920.2	7267.5
37039229580000	-79.61692	41.6782	53.1	1730.7	25.5	56.1	82.5	114.0	141.2	2892.0	7189.0
37039229600000	-79.63434	41.6871	51.7	1700.5	25.1	55.2	81.3	112.0	138.8	2943.9	7357.3
37039229610000	-79.64074	41.6869	51.6	1695.3	25.1	55.2	81.4	112.1	138.9	2940.6	7348.4
37039230760000	-80.14701	41.8056	41.5	1294.2	25.1	55.0	79.8	107.7	134.0	3160.8	8048.3
37039231050000	-79.83136	41.6406	48.1	1622.8	24.1	52.5	77.8	106.6	132.0	3102.3	7825.9
37039231070000	-79.88224	41.5780	54.0	1654.5	27.2	59.1	86.7	119.6	148.1	2728.8	6722.0
37039231350000	-79.92929	41.6399	46.1	1598.1	23.2	50.6	75.3	102.8	127.4	3226.4	8169.7
37039231360000	-79.89185	41.5795	55.0	1697.1	27.1	59.4	87.0	120.2	149.0	2719.4	6699.3
37039231520000	-79.82664	41.6348	51.6	1590.8	26.8	58.1	85.3	117.1	145.1	2780.7	6949.2
37039231530000	-79.89627	41.5715	51.1	1702.9	24.7	54.3	80.1	110.5	136.8	2993.6	7470.4
37039231690000	-79.61782	41.8173	49.4	1545.0	26.2	57.3	83.9	114.6	142.2	2835.3	7242.0
37039232290000	-79.95015	41.5934	49.9	1636.2	25.0	54.5	80.5	110.5	136.9	2978.6	7484.4
37039232460000	-79.77205	41.6650	50.4	1634.9	25.3	55.3	81.5	111.9	138.7	2936.0	7364.9
37039232550000	-79.95206	41.8023	43.3	1352.1	25.4	54.9	80.6	108.6	135.0	2973.8	7832.2
37039232850000	-79.85724	41.6806	51.7	1599.6	26.7	58.2	85.3	117.1	145.2	2780.7	6970.9
37039233260000	-79.79871	41.8070	47.7	1492.0	26.0	56.6	83.0	113.0	140.2	2870.6	7399.8
37039233330000	-79.80754	41.6374	53.1	1626.4	27.1	58.9	86.4	119.0	147.4	2738.3	6785.8
37039233910000	-79.63668	41.6751	52.2	1701.7	25.4	55.7	82.1	113.2	140.2	2911.7	7241.3
37039233970000	-79.61578	41.7725	53.2	1638.0	27.0	59.4	86.8	119.4	148.1	2725.8	6829.0
37039233980000	-79.62183	41.7746	49.2	1625.8	24.7	54.3	80.1	109.7	136.0	2997.9	7597.6
37039233990000	-79.62201	41.7805	49.0	1607.2	24.9	54.7	80.5	110.2	136.6	2977.2	7572.6
37039234380000	-80.35616	41.8439	37.1	1158.8	24.2	52.4	75.5	101.9	127.0	3482.6	8602.6
37039234820000	-80.37313	41.7489	63.6	2019.9	27.0	56.0	81.6	109.9	136.6	3026.3	7778.5
37039235390000	-80.41068	41.7897	66.1	2183.0	26.2	56.0	80.5	108.7	135.4	3160.2	8027.3
37039237970000	-79.83254	41.6058	47.3	1659.6	23.1	50.4	75.1	102.9	127.5	3236.2	8126.1
37039238120000	-79.65170	41.6520	49.9	1692.6	24.2	52.9	78.3	107.8	133.5	3077.1	7684.4
37039238430000	-80.38266	41.8248	52.0	1844.0	23.3	50.1	72.4	97.7	121.8	3701.0	8974.8
37039238470000	-80.38746	41.8207	54.9	1857.5	24.7	52.1	75.3	101.6	126.6	3478.7	8595.9
37039238480000	-80.03414	41.5155	47.0	1575.8	24.1	52.3	77.5	105.9	131.3	3115.4	7878.6
37039239720000	-79.97871	41.5139	52.1	1689.5	25.5	56.0	82.4	113.6	140.7	2898.2	7224.8

37039240010000	-79.92854	41.5791	50.5	1645.6	25.2	55.1	81.2	111.7	138.4	2945.5	7381.2
37039240390000	-80.38539	41.8162	58.0	1895.6	25.9	53.6	77.6	104.6	130.2	3301.4	8283.2
37039240480000	-79.67886	41.6627	49.4	1644.7	24.6	53.6	79.2	108.8	134.8	3034.5	7613.1
37039241170000	-80.07835	41.5640	47.1	1582.5	24.1	52.3	77.5	106.0	131.3	3114.2	7892.0
37039244990000	-79.99647	41.5149	51.5	1682.2	25.3	55.3	81.5	112.3	139.1	2933.6	7324.8
37047000180000	-78.38882	41.2521	40.8	1367.9	23.2	65.0	87.6	141.0	176.2	2605.4	4879.7
37047000360000	-78.39682	41.2631	71.5	1915.1	32.7	66.5	102.9	140.9	176.5	2241.9	4810.8
37047000550000	-78.41573	41.2554	20.2	629.4	17.7	56.7	79.4	122.6	152.8	2680.8	6024.5
37047200050000	-78.64882	41.2452	67.0	1963.8	29.5	59.9	93.8	130.6	162.2	2608.8	5319.0
37047200060000	-78.65391	41.2412	22.0	710.8	18.2	56.0	78.6	124.9	154.4	2745.0	5979.4
37047200420000	-78.45485	41.2547	82.1	2167.1	33.7	68.7	106.6	145.5	182.5	2133.6	4627.8
37047200510000	-78.33844	41.4024	63.2	2102.2	25.8	53.2	83.5	119.1	146.9	2976.5	6202.7
37047200800000	-79.01914	41.4243	16.6	688.2	11.1	32.2	49.2	70.9	86.5	5310.7	11609.6
37047200830000	-79.01747	41.4255	13.4	715.4	6.2	17.7	30.5	41.6	50.0	7872.8	14161.3
37047202850000	-78.55367	41.2825	29.9	916.8	22.8	64.7	89.7	147.3	181.3	1946.4	4614.4
37047202870000	-78.69255	41.4160	82.7	2471.9	29.8	66.1	97.0	143.0	176.3	2429.1	4894.3
37047203060000	-78.45943	41.5037	64.8	1969.3	28.3	57.6	90.5	128.9	159.0	2731.1	5461.5
37047203080000	-78.82248	41.4290	50.9	1845.0	22.7	46.8	74.3	103.3	126.5	3363.0	7754.3
37047203280000	-78.45080	41.5074	86.7	2055.0	37.8	77.7	118.6	171.3	212.3	1877.4	3985.2
37047203340000	-78.74731	41.3636	69.8	2026.9	30.0	62.8	96.2	138.0	170.2	2518.8	5040.0
37047203830000	-78.51529	41.3077	73.3	2187.9	29.4	61.7	94.7	137.7	170.1	2553.3	5044.6
37047204030000	-78.29422	41.4001	67.2	1979.7	29.4	59.8	93.6	133.2	164.6	2627.2	5229.1
37047204070000	-78.93654	41.4398	63.9	1873.3	29.3	62.0	94.5	131.9	162.6	2554.8	5547.6
37047206460000	-78.53278	41.3475	31.6	1078.1	20.9	60.2	82.7	134.7	166.5	1788.0	5198.2
37047211620000	-78.54240	41.3515	21.6	822.4	15.4	46.1	65.8	104.3	128.4	3372.8	8145.4
37047214120000	-78.54713	41.3551	22.1	837.9	15.7	46.6	66.4	105.3	129.6	3338.2	8039.1
37047215330000	-78.71400	41.5662	73.5	1949.8	33.1	72.0	106.7	149.8	185.2	2211.3	4616.4
37047220220000	-78.57525	41.4930	14.8	655.0	8.8	27.0	42.1	63.7	76.8	6019.5	12319.5
37047220310000	-78.53908	41.3548	22.7	807.1	17.0	51.3	72.3	115.9	142.8	3001.2	6948.4
37047220330000	-78.49488	41.5708	21.7	790.7	16.1	46.4	67.0	104.4	127.6	3351.4	8443.3
37047220340000	-78.48318	41.5611	18.6	763.5	12.5	37.0	54.8	85.2	103.6	4117.5	10245.7
37047220350000	-78.49186	41.5649	21.2	748.0	16.3	48.2	69.1	108.3	132.5	3229.3	8067.5
37047220360000	-78.47076	41.5718	21.6	799.2	15.8	45.8	66.0	104.3	127.5	3413.1	8382.6
37047220390000	-78.54385	41.3478	18.5	777.5	12.2	37.0	54.5	86.6	105.6	4016.4	10032.3
37047220520000	-78.46637	41.5752	18.3	854.4	10.9	30.9	47.2	72.5	87.8	5172.8	11473.0

37047220530000	-78.49780	41.5664	22.4	800.7	16.8	48.1	69.2	108.1	132.2	3242.1	8088.4
37047220540000	-78.49725	41.5615	23.5	777.8	18.6	54.2	76.9	121.2	148.5	2852.3	6833.2
37047220890000	-78.53096	41.3513	23.3	805.0	17.8	54.0	75.7	121.0	149.4	2835.9	6385.9
37047220940000	-78.54221	41.3589	23.9	807.4	18.5	55.8	78.0	125.8	155.2	2741.8	5926.4
37047222440000	-78.54844	41.3590	19.2	823.6	12.3	36.8	54.2	85.3	104.2	4109.6	10148.9
37047222460000	-78.57463	41.4974	17.9	624.2	14.2	43.9	63.7	99.3	121.2	3561.1	8909.4
37047222470000	-78.57959	41.4913	18.7	641.0	15.1	46.4	66.9	105.0	128.4	3345.6	8341.0
37047222490000	-78.55584	41.3777	23.9	846.1	17.7	51.6	72.9	118.9	145.8	3000.0	6742.0
37047222510000	-78.53390	41.4009	25.5	837.9	19.7	57.8	80.8	132.5	162.8	2652.1	5338.3
37047222700000	-78.55121	41.3543	19.9	839.4	13.0	38.6	56.4	88.8	108.7	4003.7	9780.6
37047222720000	-78.54931	41.3459	19.6	812.3	13.0	39.1	57.0	89.8	110.1	4002.3	9665.9
37047222850000	-78.53278	41.3552	20.1	808.6	13.7	41.3	59.8	94.3	115.7	3780.8	9192.2
37047222890000	-78.87756	41.5939	19.1	743.7	13.6	28.1	43.6	58.3	73.2	6135.9	12357.1
37047225000000	-78.49801	41.3145	24.9	915.9	17.4	49.3	70.2	113.7	139.3	3157.1	7274.6
37047225040000	-78.49903	41.3179	26.0	915.9	18.6	52.7	74.5	120.3	147.8	2943.9	6560.5
37047226500000	-78.47308	41.3303	71.2	2130.6	29.2	60.8	93.8	135.6	167.4	2598.6	5146.0
37047228150000	-78.57182	41.3804	22.4	933.3	14.3	40.8	59.3	95.2	116.1	3831.2	9179.6
37047228460000	-78.88432	41.5943	22.0	710.8	18.2	40.4	59.4	80.0	100.0	4792.6	10647.6
37047228620000	-78.91189	41.4116	21.5	832.1	15.0	42.7	62.3	96.1	117.3	3557.3	9258.7
37047228650000	-78.57665	41.3831	23.1	868.7	16.3	46.8	67.1	108.2	132.3	3333.6	7859.4
37047230870000	-78.87873	41.6031	21.9	746.5	17.3	37.7	53.9	73.3	92.3	5353.2	11402.1
37047231800000	-78.54271	41.4271	22.9	855.0	16.3	47.1	67.4	108.7	133.0	3311.7	7825.6
37047232250000	-78.91068	41.5108	23.8	796.7	18.6	52.9	75.5	113.6	139.6	2928.4	7857.5
37047232270000	-78.92325	41.5100	20.5	725.4	15.9	45.5	66.3	98.7	121.0	3274.1	9161.1
37047232290000	-78.92583	41.5083	22.8	768.4	18.0	51.0	73.2	110.2	135.3	3044.1	8116.7
37047232340000	-78.91928	41.5078	22.5	782.4	17.2	48.9	70.5	105.7	129.7	3165.9	8536.4
37047232360000	-78.91326	41.5088	23.2	794.0	17.9	50.9	73.0	109.6	134.5	3025.2	8216.9
37047232400000	-78.91456	41.5079	23.2	793.1	17.9	50.9	73.0	109.5	134.5	3025.0	8220.6
37047232430000	-78.92547	41.5072	22.1	759.6	17.3	49.0	70.7	105.9	129.9	3168.1	8512.2
37047232440000	-78.92230	41.5072	23.0	783.6	17.9	50.9	73.0	110.0	135.0	3038.8	8141.9
37047232500000	-78.92749	41.5085	21.9	747.4	17.3	49.3	71.1	106.7	130.8	3146.6	8438.0
37047232590000	-78.91623	41.5271	21.1	804.7	15.1	42.9	62.7	93.7	114.7	3412.0	9598.3
37047233020000	-78.63300	41.2568	23.2	992.4	14.3	40.8	59.1	93.0	114.2	3836.5	9321.5
37047233030000	-78.71590	41.2340	24.0	887.3	16.9	47.9	68.5	110.3	134.9	3260.4	7667.7
37047233140000	-78.63009	41.2591	23.6	823.0	17.7	53.2	74.7	119.2	147.2	2891.5	6578.5

37047233170000	-78.61502	41.2526	17.6	795.2	10.9	33.0	49.3	77.0	93.8	4752.7	11009.9
37047233180000	-78.62225	41.2571	22.0	826.0	15.7	47.0	66.9	106.0	130.6	3300.3	7955.8
37047233220000	-78.62709	41.2550	20.4	796.7	14.4	43.6	62.6	98.8	121.5	3576.7	8715.5
37047233230000	-78.62315	41.2532	21.0	796.1	15.1	45.7	65.3	103.4	127.3	3397.1	8235.3
37047233350000	-78.55355	41.5713	40.6	1220.7	25.9	61.2	89.0	130.8	161.0	2585.0	5983.8
37047233360000	-78.42299	41.4154	43.1	1327.4	25.7	67.4	93.0	149.4	185.2	2608.5	4523.0
37047233750000	-78.56909	41.3848	30.4	868.1	24.6	70.9	97.5	160.8	198.1	1715.0	4089.5
37047233760000	-78.55464	41.3701	29.7	859.2	24.1	70.0	96.2	158.3	195.3	1736.7	4178.2
37047234030000	-78.55167	41.3681	21.9	858.6	15.0	43.8	63.1	100.6	123.3	3572.4	8573.5
37047234770000	-78.94664	41.5852	23.9	805.9	18.5	38.9	56.2	76.1	95.5	5056.8	11011.0
37047234820000	-78.73077	41.5815	93.5	3195.8	26.4	57.7	85.5	122.2	150.6	2783.5	6325.5
37047234940000	-78.55137	41.3641	20.2	860.5	13.1	38.1	55.9	88.2	107.8	3981.9	9853.8
37047235050000	-78.93724	41.6185	19.2	838.8	12.2	35.1	52.6	76.6	93.7	4811.4	11110.7
37047235060000	-78.93413	41.6199	17.0	626.4	12.8	38.8	57.5	83.7	102.6	4210.7	10506.4
37047901370000	-78.29713	41.3232	69.6	1945.2	31.2	63.2	98.5	134.3	168.1	2404.0	5099.7
37049200860000	-80.46953	41.8605	62.1	1800.2	29.5	61.1	86.8	117.4	146.0	2813.7	7371.3
37049201090000	-80.04720	42.1428	51.2	1820.3	23.2	52.4	72.0	98.1	122.9	4014.5	9485.7
37049201170000	-80.35536	41.8769	36.0	1074.7	25.1	53.3	76.5	103.4	128.9	3402.4	8462.5
37049201320000	-80.33645	41.8763	33.5	1056.4	23.2	49.1	71.0	95.8	119.5	3777.8	9102.4
37049201590000	-79.88954	42.0189	66.2	2275.3	25.2	53.4	78.0	105.1	130.7	3261.3	8211.1
37049202180000	-80.41560	41.9127	27.7	997.9	18.8	39.3	58.2	78.2	97.8	4812.4	10675.2
37049203260000	-80.06505	42.0512	24.4	725.7	21.2	47.5	68.8	92.9	115.9	4033.4	9515.6
37049203270000	-80.06099	42.0468	24.6	742.2	21.1	46.2	67.1	90.4	112.9	4132.7	9671.6
37049203450000	-79.81048	42.1573	56.4	1845.6	25.7	56.5	80.8	109.3	136.2	3176.1	8056.4
37049203700000	-79.82677	41.9531	42.9	1228.6	27.6	59.2	85.4	115.5	143.7	2725.4	7367.0
37049208120000	-79.83657	42.0658	39.6	1114.3	27.5	58.2	83.3	112.6	140.2	2952.9	7639.7
37049208660000	-80.35444	41.8602	37.2	1129.0	25.0	53.8	77.2	104.4	130.0	3367.7	8401.1
37049208770000	-80.35940	41.8594	35.4	1119.2	23.6	50.7	73.2	98.8	123.2	3633.4	8861.0
37049208870000	-80.37206	41.8624	35.5	1127.2	23.6	50.9	73.3	99.0	123.4	3646.2	8882.6
37049209340000	-80.31075	41.8577	36.4	1109.8	24.7	52.5	75.8	102.3	127.5	3427.1	8505.9
37049209350000	-80.30213	41.8622	37.2	1122.9	25.1	53.5	77.1	104.1	129.7	3352.9	8374.9
37049209360000	-80.31442	41.8522	35.5	1125.0	23.6	50.4	73.0	98.5	122.7	3633.4	8861.0
37049209370000	-80.30653	41.8587	35.9	1115.3	24.2	51.5	74.5	100.5	125.2	3528.9	8682.6
37049209380000	-80.30690	41.8637	37.1	1119.5	25.1	53.6	77.1	104.2	129.8	3349.9	8369.7
37049209390000	-80.30745	41.8540	36.1	1087.5	25.0	52.7	76.1	102.7	128.0	3404.6	8466.3

37049209650000	-80.33884	41.8524	37.2	1127.2	25.0	53.6	77.1	104.2	129.8	3361.0	8389.4
37049210250000	-80.36710	41.8544	35.4	1116.8	23.7	50.7	73.2	98.8	123.2	3631.2	8857.3
37049210900000	-80.36545	41.8610	36.3	1098.8	24.8	53.0	76.2	103.0	128.3	3426.5	8504.7
37049211290000	-80.34343	41.8563	35.9	1111.3	24.2	51.6	74.5	100.6	125.4	3526.7	8678.9
37049211370000	-80.34489	41.8525	35.3	1110.7	23.7	50.6	73.2	98.7	123.0	3621.0	8840.1
37049214290000	-80.34728	41.8695	35.0	1088.1	23.9	50.9	73.5	99.2	123.6	3602.5	8808.6
37049214380000	-80.36601	41.8648	36.3	1099.1	24.8	53.1	76.2	103.0	128.4	3428.3	8508.0
37049214440000	-80.37297	41.8524	36.4	1108.9	24.7	52.9	76.1	102.8	128.1	3435.8	8521.0
37049215100000	-80.28751	41.8553	38.5	1182.0	24.9	53.9	77.7	105.0	130.8	3324.4	8324.2
37049215560000	-80.37867	41.8517	36.3	1102.2	24.8	53.1	76.2	103.0	128.4	3432.1	8514.5
37049216080000	-80.38344	41.8515	35.0	1088.1	23.9	51.1	73.6	99.4	123.9	3607.6	8817.2
37049216090000	-80.38931	41.8515	35.1	1089.4	23.9	51.2	73.7	99.5	124.1	3611.6	8824.0
37049216150000	-80.36876	41.8584	35.7	1097.6	24.3	52.0	74.8	101.0	125.9	3518.0	8663.8
37049216510000	-80.37941	41.8673	35.3	1063.8	24.7	52.4	75.3	101.7	126.8	3487.3	8610.8
37049216620000	-80.37079	41.8792	34.4	1041.8	24.4	51.5	74.1	100.1	124.8	3563.1	8741.4
37049216910000	-80.27350	41.8714	38.0	1189.0	24.4	52.9	76.3	103.1	128.4	3416.5	8487.2
37049216920000	-80.28011	41.8712	38.0	1188.7	24.4	52.9	76.4	103.1	128.5	3416.9	8487.9
37049216940000	-80.27038	41.8743	38.0	1186.9	24.4	52.9	76.3	103.1	128.4	3414.2	8483.2
37049216950000	-80.33884	41.8602	36.4	1105.2	24.8	52.8	76.0	102.6	127.9	3427.5	8506.5
37049218140000	-80.40970	41.8747	33.8	1033.9	24.0	51.0	73.0	98.7	123.2	3668.0	8919.4
37049218820000	-80.38253	41.8616	34.6	1056.4	24.3	51.3	73.9	99.8	124.4	3575.9	8763.2
37049219230000	-80.42070	41.8659	33.3	1041.8	23.3	49.8	71.5	96.7	120.6	3778.5	9103.5
37049219750000	-80.34343	41.8696	34.7	1063.4	24.2	50.9	73.6	99.4	123.8	3575.5	8762.6
37049219830000	-80.30947	41.8735	37.5	1148.8	24.8	53.5	76.9	103.9	129.4	3384.4	8430.8
37049219950000	-80.39079	41.8749	33.8	1034.5	23.9	50.8	72.9	98.5	122.8	3663.2	8911.3
37049220940000	-80.38143	41.8745	34.5	1088.1	23.4	50.2	72.3	97.7	121.8	3711.0	8991.5
37049220960000	-80.41502	41.8673	34.2	1023.2	24.6	52.1	74.5	100.8	125.7	3554.1	8726.0
37049221170000	-80.37537	41.8883	33.6	1024.1	24.1	50.7	72.9	98.5	122.9	3650.6	8890.1
37049221180000	-80.37886	41.8854	34.5	1051.0	24.3	51.8	74.2	100.3	125.0	3579.4	8769.2
37049221190000	-80.37318	41.8848	33.7	1031.7	24.0	50.6	72.8	98.4	122.7	3657.3	8901.3
37049221380000	-79.71514	41.9977	44.2	1333.5	26.4	57.9	83.9	113.4	141.0	2791.8	7566.3
37049221440000	-80.28653	41.8710	38.2	1157.9	25.2	54.2	78.0	105.4	131.3	3301.7	8283.8
37049222680000	-79.72578	41.9032	43.8	1339.6	25.9	56.4	82.3	111.0	138.1	2870.2	7691.4
37049222890000	-80.38436	41.8659	34.3	1033.0	24.5	51.5	74.1	100.1	124.8	3552.0	8722.4
37049222910000	-80.36914	41.8837	34.0	1051.6	23.8	50.5	72.6	98.1	122.3	3675.7	8932.3

37049224560000	-80.02874	41.9318	44.3	1249.7	28.3	61.6	88.1	119.3	148.4	2605.0	7175.3
37049224730000	-80.37702	41.8596	35.5	1079.9	24.5	52.2	75.0	101.4	126.4	3502.1	8636.4
37049232480000	-80.39042	41.8695	33.8	1077.8	23.0	49.1	71.0	95.8	119.5	3802.0	9142.3
37049232500000	-80.38477	41.8707	34.4	1082.3	23.5	50.3	72.4	97.8	121.9	3705.8	8982.7
37049233130000	-80.29255	41.8748	37.0	1154.9	24.3	52.2	75.4	101.8	126.8	3475.7	8590.7
37049237680000	-79.99325	41.9486	74.3	2238.8	29.2	62.0	89.1	120.4	149.7	2577.1	7049.9
37049237980000	-80.37408	41.8667	36.8	1055.2	26.4	55.7	79.6	107.6	134.1	3200.8	8101.5
37049239720000	-80.01765	41.9765	25.2	816.9	19.8	42.5	62.9	84.5	105.4	4404.2	10085.4
37049240800000	-79.91859	41.8839	41.5	1293.6	25.2	54.5	79.4	107.1	133.2	3142.0	8032.4
37049240990000	-80.35555	41.8854	33.7	1074.7	23.0	49.1	71.0	95.8	119.5	3798.3	9136.1
37049241290000	-79.91443	42.1030	36.4	1072.3	25.5	54.0	77.5	104.8	130.5	3321.2	8318.6
37049241420000	-79.94425	41.9868	38.1	1194.2	24.3	52.3	75.9	102.4	127.5	3411.0	8477.5
37049243170000	-80.00147	41.8953	39.9	1253.6	24.7	53.6	77.8	105.0	130.7	3295.1	8271.9
37049247920000	-79.79752	42.0222	39.0	1220.7	24.5	52.9	76.8	103.6	129.0	3347.6	8365.6
37049247940000	-79.78126	42.0142	22.9	775.1	17.9	40.6	60.6	81.2	101.3	4692.4	10505.7
37049247980000	-80.15303	41.9072	38.3	1209.4	24.2	52.5	76.1	102.6	127.8	3431.8	8514.1
37049248660000	-79.72890	41.8877	45.6	1403.9	26.1	57.2	83.6	112.8	140.2	2850.6	7534.9
37049249100000	-79.69462	41.9803	45.7	1411.8	26.0	57.4	83.6	112.8	140.3	2795.7	7597.1
37049249460000	-79.68175	41.9802	43.5	1363.7	25.3	55.7	81.1	109.4	136.1	2974.7	7882.1
37049249470000	-79.85621	42.1806	28.3	920.8	21.0	42.6	62.8	84.5	105.4	4361.3	10021.2
37049249530000	-79.86989	41.9112	37.3	1314.0	21.6	46.8	69.5	93.3	116.1	3860.3	9237.6
37049249900000	-80.39171	41.8884	30.5	996.1	21.6	45.2	65.7	88.6	110.6	4181.3	9747.0
37049249940000	-79.99914	41.9666	60.2	2010.5	25.5	52.7	77.2	103.9	129.2	3292.9	8268.0
37049250580000	-79.62346	41.8772	44.1	1563.0	22.5	49.6	73.7	99.8	123.9	3361.0	8571.7
37049250610000	-80.08702	42.0496	33.0	1058.0	22.7	48.0	69.6	93.9	117.1	3885.8	9279.1
37049250720000	-79.62457	41.8855	45.7	1509.7	24.3	53.6	78.9	107.0	132.9	3047.3	7954.4
37049250760000	-79.62719	41.8926	45.1	1503.9	24.0	53.0	78.0	105.7	131.2	3088.8	8086.4
37049250770000	-79.61785	41.8927	46.0	1482.2	24.9	54.9	80.7	109.3	135.7	2971.6	7781.9
37049250780000	-79.63074	41.8743	47.1	1537.4	24.8	54.7	80.4	109.3	135.7	2982.0	7744.7
37049250850000	-79.64330	41.8997	45.8	1469.4	25.1	55.2	81.0	109.6	136.2	2956.5	7768.5
37049250860000	-79.64563	41.8610	32.9	1096.4	21.8	44.2	66.8	89.6	111.2	3911.3	9320.3
37049251020000	-79.61362	41.9111	47.1	1385.9	27.5	59.9	87.2	117.9	146.5	2711.4	7126.6
37051000930000	-79.67990	39.8251	66.7	2255.5	25.6	66.0	84.2	124.8	160.8	2885.0	5546.4
37051000980000	-79.66130	39.8575	83.5	2212.5	33.7	87.0	108.6	165.9	213.5	2119.5	4005.5
37051000990000	-79.68610	39.8133	63.7	2455.8	22.3	58.0	74.4	109.9	141.4	3245.7	6414.2

37051001120000	-79.66590	39.8543	68.3	2114.7	28.0	71.9	91.6	139.2	178.4	2638.2	4910.4
37051001130000	-79.67370	39.8346	66.3	2145.8	26.7	68.5	87.6	130.4	167.8	2782.5	5283.9
37051001150000	-79.66600	39.8455	74.5	1875.1	34.9	87.4	111.0	164.9	212.7	2091.3	4040.1
37051200100000	-79.44390	39.8381	87.5	2146.4	36.6	94.2	117.2	183.7	235.4	1926.0	3832.0
37051200110000	-79.42580	39.8423	20.9	768.1	15.4	32.8	47.6	65.2	82.8	5655.3	11765.6
37051200140000	-79.43900	39.8499	83.2	2040.3	36.4	93.0	116.4	181.4	232.4	1957.7	3874.9
37051200180000	-79.48220	39.7790	85.7	2691.7	28.5	75.8	93.2	153.9	195.3	2512.9	4362.3
37051200190000	-79.68980	39.7697	86.3	2441.8	31.7	84.1	103.3	170.7	216.7	2247.3	3844.6
37051200200000	-79.43480	39.8569	85.7	2069.6	37.1	95.0	118.5	185.4	237.5	1906.2	3803.5
37051200220000	-79.56040	39.8760	82.9	2427.4	30.5	80.1	99.3	160.6	204.4	2357.5	4143.6
37051200290000	-79.53030	39.9490	86.9	2448.2	31.8	83.6	103.4	164.1	209.8	2230.6	4044.3
37051200350000	-79.54531	39.7258	89.3	2553.6	31.4	82.5	102.4	167.5	212.6	2320.4	3933.9
37051200410000	-79.66010	39.8502	107.6	3488.7	28.3	72.5	90.1	139.7	179.2	2640.7	4888.6
37051200450000	-79.69100	39.7931	82.4	2137.6	34.3	87.4	109.8	161.5	209.4	2082.8	4142.8
37051200510000	-79.55130	39.8887	85.6	2412.5	31.7	83.5	103.2	166.9	212.6	2244.4	3965.1
37051200530000	-79.64280	39.7286	36.6	960.1	28.8	70.0	86.1	119.7	150.9	3592.9	8792.3
37051200560000	-79.65350	39.8436	122.5	3628.3	31.3	79.9	98.5	152.1	195.8	2348.1	4427.8
37051200940000	-79.64720	39.7216	80.7	2423.5	29.6	76.8	97.3	151.6	193.5	2438.0	4444.6
37051201210000	-79.56950	39.8640	88.8	2400.9	33.3	87.4	107.7	174.1	222.0	2123.7	3898.4
37051201290000	-79.57370	39.8486	87.6	2385.1	33.0	86.7	107.0	173.8	221.3	2149.3	3907.6
37051201310000	-79.68470	39.7681	98.6	3454.9	25.9	64.6	82.6	132.9	168.1	2903.9	5224.7
37051201400000	-79.44890	40.1310	81.4	2727.4	26.6	70.6	87.4	138.1	176.7	2722.0	4959.4
37051201440000	-79.57910	39.8335	86.8	2426.2	32.1	84.7	104.3	171.4	217.8	2216.2	3888.2
37051201520000	-79.35190	40.0212	80.1	2684.4	26.5	70.0	87.1	131.5	169.7	2739.8	5223.0
37051201530000	-79.84420	39.8341	82.1	2650.9	27.6	72.6	90.3	135.6	175.2	2618.0	5041.3
37051201690000	-79.42380	40.0354	80.0	2486.6	28.5	75.0	93.5	146.9	187.9	2534.9	4614.1
37051202510000	-79.82880	39.8464	94.7	2623.7	32.7	85.9	105.6	159.1	206.1	2132.8	4213.3
37051202590000	-79.37680	39.9929	78.4	2417.4	28.7	74.5	93.6	138.8	179.5	2527.4	4911.3
37051203230000	-79.43750	39.8193	75.8	2621.6	25.5	67.3	84.2	127.4	164.0	2852.9	5422.1
37051203620000	-79.77490	39.8600	49.4	1699.0	23.8	58.0	77.2	110.0	141.6	3216.9	6395.7
37051203710000	-79.89410	39.9102	53.8	1747.4	25.6	62.8	82.7	118.5	152.7	2995.8	5876.5
37051203720000	-79.89530	39.8994	51.9	1724.6	24.9	60.9	80.5	115.2	148.3	3078.4	6071.6
37051204400000	-79.51949	39.7492	43.8	1537.7	22.6	58.7	76.9	108.8	137.3	3136.2	7895.3
37051204940000	-79.34800	40.0316	72.4	2360.4	26.9	70.1	88.4	135.8	174.0	2729.4	5053.6
37051204950000	-79.31505	40.0253	77.9	2598.1	26.5	70.4	87.5	144.9	183.3	2704.7	4699.8

37051205140000	-79.67300	39.8410	65.2	2361.9	23.8	62.0	79.1	118.8	152.5	3051.5	5887.0
37051205200000	-79.62500	39.8750	73.4	2265.6	28.4	73.6	92.9	140.8	181.0	2574.7	4839.2
37051205230000	-79.76780	39.7382	80.3	2379.3	30.0	72.0	93.6	130.3	164.4	2415.5	6441.3
37051205270000	-79.66860	39.8342	65.4	2170.5	26.0	66.8	85.5	127.0	163.4	2850.3	5445.2
37051205300000	-79.64070	39.8858	71.3	2429.9	25.6	67.0	84.6	129.6	166.2	2847.5	5331.5
37051205380000	-79.67170	39.8296	60.0	2114.1	24.1	61.8	79.8	119.3	152.9	3049.9	5869.5
37051205390000	-79.66610	39.8484	67.4	2279.9	25.6	66.4	84.5	127.4	163.6	2868.6	5432.4
37051205400000	-79.67530	39.8262	64.1	2144.9	25.7	65.9	84.5	125.5	161.5	2883.3	5518.4
37051205430000	-79.67770	39.8221	68.3	2179.3	27.2	69.9	89.0	131.6	169.7	2722.5	5219.3
37051205440000	-79.66610	39.8404	62.6	2161.6	24.8	63.6	81.8	121.5	156.2	2974.0	5730.4
37051205450000	-79.66880	39.8384	86.0	2106.2	36.6	93.5	116.8	174.5	225.7	1929.0	3864.7
37051206050000	-79.68250	39.8066	68.8	2322.9	25.8	66.5	84.7	124.7	161.0	2873.7	5543.5
37051206700000	-79.67850	39.8178	69.1	2214.7	27.1	69.8	88.9	130.9	169.0	2722.8	5246.8
37051207370000	-79.75070	39.7844	86.3	2357.3	32.8	85.1	105.9	157.8	204.4	2164.8	4251.2
37051207700000	-79.93090	39.9502	30.4	1158.2	18.5	41.8	58.9	85.1	107.6	4169.7	8896.5
37051208150000	-79.66550	39.8431	68.9	2120.8	28.3	72.3	92.1	136.8	176.3	2616.5	4996.9
37051208490000	-79.75780	39.7225	73.5	2011.7	32.1	78.1	101.9	143.0	185.7	2294.6	4737.0
37051208880000	-79.86657	39.9068	34.9	1253.3	20.7	47.5	65.6	94.3	120.0	3852.9	7727.0
37051208900000	-79.83124	39.9198	31.6	1213.1	18.7	42.5	59.7	85.0	107.9	4178.6	8784.3
37051208920000	-79.86096	39.9042	38.1	1289.0	22.6	52.1	71.3	102.8	131.1	3525.3	6970.2
37051209000000	-79.86940	39.9103	48.3	1699.6	23.1	56.2	75.1	106.7	137.3	3314.4	6618.4
37051209030000	-79.87076	39.9056	36.6	1300.0	21.2	49.1	67.5	97.2	123.8	3732.1	7453.6
37051209500000	-79.86249	39.9070	33.4	1175.3	20.8	46.9	65.1	93.4	118.8	3889.4	7801.5
37051209540000	-79.86256	39.9102	33.6	1191.8	20.6	46.9	65.0	93.5	118.8	3895.0	7810.0
37051209620000	-79.88391	39.9064	40.7	1364.3	23.3	54.3	73.7	107.1	136.6	3396.7	6661.8
37051209710000	-79.88960	39.9173	51.8	1828.8	23.4	58.0	76.7	109.9	141.4	3224.6	6413.5
37051209780000	-79.88384	39.9255	33.1	1239.3	19.4	44.6	62.2	90.1	114.2	3978.4	8228.4
37051209800000	-79.71233	40.0452	33.6	1147.3	21.4	48.4	66.9	97.4	123.5	3776.1	7473.1
37051209910000	-79.89996	39.9376	38.2	1389.3	21.0	49.4	67.8	99.4	126.2	3704.4	7334.3
37051209920000	-79.90600	39.9120	53.3	1832.2	24.2	59.8	78.8	113.2	145.7	3134.4	6199.8
37051209950000	-79.81827	39.9283	29.4	1083.9	18.8	42.2	59.3	84.3	107.1	4221.2	8827.1
37051209960000	-79.61340	39.8799	82.9	2513.4	29.4	77.5	96.1	151.9	194.3	2443.4	4432.9
37051209990000	-79.86577	39.9125	34.0	1269.2	19.7	45.4	63.1	90.9	115.4	3991.7	8111.2
37051210000000	-79.88744	39.8852	31.3	1145.7	19.5	43.9	61.5	88.1	111.8	3999.7	8392.8
37051210010000	-79.87856	39.8989	30.1	1219.8	17.3	39.4	55.9	79.3	100.5	4548.1	9666.2

37051210100000	-79.85560	39.8986	29.9	1159.8	18.0	40.5	57.3	81.1	102.9	4429.3	9324.9
37051210210000	-79.91470	39.9080	37.3	1221.9	23.2	53.0	72.5	106.2	134.9	3464.0	6751.6
37051210300000	-79.82211	39.9178	29.0	1051.9	19.0	42.6	59.7	84.7	107.7	4198.2	8736.4
37051210370000	-79.87696	39.9224	39.8	1288.4	23.9	55.3	75.0	109.8	139.8	3336.0	6479.7
37051210400000	-79.90014	39.9301	33.9	1215.5	20.5	46.8	64.9	94.4	119.7	3894.4	7771.0
37051210640000	-79.53853	40.1209	30.8	1145.4	19.0	43.1	60.5	88.0	111.3	3996.8	8555.9
37051210660000	-79.86808	39.8837	30.4	1070.8	20.0	44.7	62.3	88.4	112.5	3998.3	8285.6
37051210680000	-79.87461	39.9377	32.8	1264.3	18.9	43.5	60.8	88.4	111.9	3994.6	8498.8
37051210740000	-79.88605	39.9031	34.9	1255.5	20.7	47.5	65.6	94.6	120.3	3851.2	7712.2
37051210760000	-79.90451	39.9035	35.7	1222.9	21.8	49.9	68.6	100.1	127.1	3670.3	7239.4
37051210790000	-79.88481	39.9300	33.4	1223.8	20.0	45.7	63.6	92.4	117.1	3978.0	7982.3
37051210800000	-79.91107	39.9218	31.0	1159.8	18.9	42.9	60.2	87.1	110.2	4051.2	8608.2
37051210830000	-79.88195	39.8958	31.9	1233.5	18.6	42.4	59.6	85.1	108.0	4172.9	8803.9
37051210850000	-79.86204	39.9482	35.5	1252.1	21.1	48.6	67.1	98.2	124.5	3757.7	7431.9
37051211320000	-79.87767	39.9115	35.6	1218.6	21.8	49.8	68.6	99.0	125.9	3677.3	7297.9
37051211420000	-79.71546	40.0615	29.0	1090.3	18.3	40.9	57.9	83.4	105.4	4275.8	9103.8
37051211600000	-79.73838	40.0682	24.1	976.3	15.5	34.7	50.0	71.7	90.3	5162.5	10974.8
37051211610000	-79.90426	39.9264	38.8	1210.1	24.7	56.3	76.4	112.0	142.6	3276.5	6324.3
37051211650000	-79.91612	39.9217	31.8	1181.1	19.3	43.8	61.4	89.0	112.6	3983.2	8361.0
37051211660000	-79.90486	39.9166	37.5	1237.2	23.0	52.8	72.2	105.6	134.3	3476.4	6789.9
37051211670000	-79.81448	39.9108	29.9	998.5	21.0	47.1	64.9	92.8	118.3	3884.5	7814.4
37051211700000	-79.73337	40.0489	25.4	1158.5	14.2	32.0	47.0	66.8	83.9	5651.1	11825.4
37051211710000	-79.84809	39.8966	30.1	1091.2	19.3	43.2	60.6	85.7	109.0	4142.2	8604.5
37051211720000	-79.87114	39.9446	32.0	1245.1	18.5	42.5	59.7	86.7	109.7	4069.8	8728.6
37051211730000	-79.86829	39.9470	40.0	1400.6	22.2	52.1	71.0	104.8	133.1	3522.2	6896.1
37051211740000	-79.87328	39.9469	35.7	1274.1	21.0	48.5	66.8	97.8	124.1	3771.0	7467.1
37051211750000	-79.87603	39.9443	34.6	1226.2	20.9	47.8	66.1	96.6	122.4	3819.4	7575.8
37051211760000	-79.85523	39.9456	30.4	1198.8	17.8	40.6	57.4	83.1	104.9	4293.8	9232.2
37051211770000	-79.86657	39.9424	34.4	1211.3	21.0	47.9	66.3	96.8	122.7	3811.1	7551.5
37051211780000	-79.74163	40.0714	24.4	995.8	15.4	34.6	49.9	71.5	90.0	5179.0	11005.4
37051211790000	-79.77244	39.8450	30.3	1191.8	17.8	40.7	57.5	83.3	105.2	4281.6	9216.3
37051211800000	-79.72320	40.0862	25.7	929.6	17.9	40.4	56.6	82.2	104.0	4349.0	9287.4
37051211820000	-79.74395	40.0591	22.0	1025.4	12.7	28.4	42.4	59.9	75.0	6475.3	12970.0
37051211910000	-79.87023	39.9190	39.4	1255.2	24.2	55.7	75.6	110.4	140.6	3313.7	6433.3
37051211920000	-79.88427	39.8897	38.4	1179.0	25.0	56.5	76.8	111.2	142.0	3263.6	6340.9

37051211970000	-79.88854	39.9003	33.7	1198.8	20.6	46.8	65.0	93.6	118.9	3885.3	7809.1
37051211980000	-79.90023	39.8998	38.6	1192.4	24.8	56.5	76.7	112.2	142.9	3265.1	6305.1
37051212030000	-79.81876	39.9098	30.4	1073.2	19.9	44.6	62.2	88.3	112.4	3997.7	8297.0
37051212060000	-79.84867	39.9443	32.9	1227.7	19.5	44.7	62.3	90.6	114.8	3980.7	8183.7
37051212080000	-79.73549	40.0775	23.0	977.5	14.3	32.2	46.9	66.9	84.1	5626.7	11784.7
37051212180000	-79.72402	40.0741	30.2	973.5	21.7	48.8	67.0	98.1	124.5	3747.6	7395.5
37051212220000	-79.91953	39.9187	31.0	1165.3	18.9	42.8	60.2	87.1	110.2	4050.1	8614.0
37051212270000	-79.85914	39.8969	35.1	1133.9	23.0	51.4	70.7	101.0	128.9	3564.0	7067.7
37051212320000	-79.84136	39.9449	29.4	1211.0	16.8	38.5	54.8	78.9	99.6	4576.3	9857.5
37051212370000	-79.84118	39.9481	27.4	1229.3	15.0	34.3	49.7	71.2	89.6	5210.3	11119.2
37051212380000	-79.85596	39.8781	21.8	1010.1	12.6	28.4	42.3	58.4	73.5	6605.2	13156.1
37051212390000	-79.85719	39.9421	40.0	1257.6	24.6	56.7	76.9	113.3	144.1	3253.3	6260.6
37051212400000	-79.86038	39.9210	26.5	1182.6	14.8	33.7	49.0	69.6	87.6	5357.6	11336.3
37051212460000	-79.86031	39.8859	29.9	1117.1	18.7	41.7	58.9	82.9	105.4	4306.9	8972.2
37051212470000	-79.89272	39.9416	31.3	1185.7	18.8	42.8	60.0	87.0	110.1	4055.9	8644.1
37051212480000	-79.85216	39.9144	25.8	1190.9	14.1	32.1	47.0	66.3	83.4	5692.2	11878.1
37051212490000	-79.84495	39.8941	23.2	1073.5	13.2	29.6	43.9	60.7	76.4	6294.0	12763.8
37051212510000	-79.86471	39.9187	34.4	1253.3	20.2	46.5	64.5	93.4	118.5	3919.0	7860.7
37051212520000	-79.84945	39.9480	26.4	1239.3	14.1	32.3	47.2	67.4	84.7	5586.3	11753.4
37051212530000	-79.73871	40.0776	23.9	965.6	15.5	34.8	50.0	71.8	90.4	5153.0	10957.5
37051212540000	-79.77998	40.0072	33.0	1254.9	19.1	44.0	61.4	89.2	112.9	3981.5	8364.4
37051212560000	-79.73495	40.0691	26.1	958.0	17.8	40.0	56.3	81.6	103.1	4392.1	9378.1
37051212580000	-79.73413	40.0661	25.2	954.3	17.0	38.1	54.0	78.0	98.5	4644.2	9939.4
37051212590000	-79.73888	40.0619	25.2	974.5	16.6	37.3	53.1	76.5	96.5	4757.4	10181.1
37051212600000	-79.74156	40.0664	29.0	1012.2	19.8	44.4	61.8	89.8	113.7	3991.0	8237.5
37051212610000	-79.86550	39.9452	31.9	1229.9	18.6	42.6	59.8	86.9	109.8	4062.2	8703.5
37051212630000	-79.90112	39.9454	28.6	1376.5	14.3	33.4	48.5	69.6	87.5	5361.4	11424.7
37051212760000	-79.73674	40.0814	27.1	975.4	18.6	41.8	58.5	84.9	107.4	4183.6	8890.8
37051212780000	-79.74633	40.0651	29.4	1043.0	19.6	43.9	61.3	88.9	112.6	3983.6	8334.3
37051212790000	-79.74924	40.0633	27.5	1043.0	17.7	39.7	56.2	81.1	102.5	4423.2	9451.7
37051213420000	-79.83761	39.9529	37.3	1356.4	20.9	48.8	67.0	98.3	124.7	3750.3	7436.2
37051213580000	-79.84430	39.9538	35.8	1371.6	19.5	45.8	63.4	92.8	117.6	3972.7	7983.9
37051213610000	-79.90630	39.9485	34.2	1194.8	21.1	48.0	66.4	96.8	122.8	3802.9	7536.5
37051213690000	-79.90700	39.9237	31.7	1177.1	19.3	43.9	61.4	88.9	112.6	3985.6	8359.1
37051213720000	-79.90567	39.9452	30.1	1180.2	17.9	40.6	57.5	83.0	104.9	4296.5	9217.1

37051213740000	-79.85954	39.9399	34.1	1234.4	20.4	46.7	64.8	94.5	119.7	3899.8	7779.9
37051213820000	-79.83058	39.9577	39.9	1339.3	23.0	53.7	73.1	107.5	136.7	3423.9	6669.1
37051213830000	-79.72814	39.9950	35.1	1182.6	22.1	50.3	69.2	101.3	128.5	3639.8	7145.7
37051213840000	-79.74529	40.0242	30.8	1190.9	18.3	41.7	58.7	84.9	107.4	4178.7	8940.1
37051213960000	-79.86183	39.8687	29.4	1085.1	18.8	42.2	59.2	83.5	106.2	4269.5	8867.6
37051213970000	-79.87785	39.8588	39.0	1224.7	24.5	55.9	75.9	109.5	139.9	3301.7	6452.8
37051213980000	-79.83672	39.9312	42.2	1281.1	25.9	59.8	80.6	118.0	150.5	3100.4	5947.3
37051214000000	-79.83055	39.9613	19.0	662.9	15.1	33.2	47.6	68.7	86.5	5414.9	11425.7
37051214010000	-79.82720	39.9629	40.6	1355.1	23.3	54.5	74.0	109.0	138.6	3378.6	6564.5
37051214090000	-79.82474	39.9261	33.0	1235.7	19.5	44.5	62.1	88.7	112.8	3992.5	8312.8
37051214120000	-79.87192	39.9164	43.7	1286.6	26.9	62.2	83.5	122.3	156.2	2990.5	5699.7
37051214140000	-79.83806	39.9109	38.0	1234.4	23.5	53.7	73.3	105.3	134.4	3428.6	6755.9
37051214170000	-79.89220	39.9011	40.0	1190.2	26.0	59.1	79.9	116.5	148.7	3131.6	6018.0
37051214240000	-79.66910	40.0605	35.9	1151.5	23.3	52.7	72.2	105.6	134.2	3480.1	6780.4
37051214320000	-79.86822	39.9560	40.6	1358.8	23.3	54.5	74.0	109.2	138.8	3379.5	6558.9
37051214350000	-79.91601	39.9327	44.5	1176.8	30.2	68.5	91.4	135.2	172.5	2721.7	5072.5
37051214400000	-79.85456	39.9622	41.6	1439.6	22.6	53.6	72.7	107.5	136.6	3431.7	6691.1
37051214430000	-79.91579	39.9360	36.3	1183.2	23.0	52.4	71.7	105.0	133.4	3502.0	6834.2
37051214550000	-79.84483	39.9429	36.6	1348.7	20.5	47.9	66.0	96.6	122.5	3814.1	7595.1
37051214860000	-79.72440	40.0251	36.9	1170.7	23.9	54.1	73.9	108.2	137.6	3395.9	6589.1
37051215030000	-79.75562	40.0182	22.9	1053.7	13.2	29.6	43.9	62.2	77.9	6175.3	12595.2
37051215170000	-79.73406	40.0632	25.6	965.9	17.2	38.7	54.7	79.0	99.8	4569.3	9776.9
37051215260000	-79.74358	39.9924	31.3	1144.8	19.5	44.0	61.6	89.2	113.0	3979.8	8314.4
37051215510000	-79.82946	39.9265	33.8	1255.2	19.8	45.4	63.2	90.7	115.2	3994.8	8111.0
37051215540000	-79.69696	40.0944	28.8	918.1	21.6	48.5	66.5	97.5	123.8	3774.4	7447.4
37051215570000	-79.72519	40.0221	32.2	1045.5	22.2	49.8	68.5	100.1	127.1	3672.8	7219.8
37051215620000	-79.81859	39.9317	35.9	1156.4	23.3	52.4	71.9	103.4	131.8	3501.1	6901.0
37051215700000	-79.83512	39.9592	38.4	1356.7	21.7	50.7	69.4	101.9	129.4	3617.0	7120.0
37051215790000	-79.77936	40.0179	41.9	1297.5	25.3	58.7	79.1	116.6	148.5	3156.1	6049.8
37051215810000	-79.91334	39.9494	35.7	1320.1	20.3	47.1	65.1	95.2	120.7	3868.7	7724.9
37051215890000	-79.93174	39.9593	38.8	1341.1	22.2	51.8	70.7	103.7	131.8	3545.4	6958.1
37051216260000	-79.89300	39.9211	35.2	1229.0	21.3	48.8	67.3	97.6	124.0	3751.6	7445.3
37051216840000	-79.90606	39.8656	34.7	1277.7	20.1	46.4	64.3	93.6	118.7	3925.0	7866.5
37051217000000	-79.71940	40.0614	23.0	978.4	14.3	32.2	46.9	66.9	84.1	5628.4	11787.1
37051217370000	-79.93214	39.9923	35.7	1182.3	22.6	51.3	70.5	103.2	131.0	3569.0	6985.1

37051218450000	-79.61310	39.7694	73.9	2417.7	26.9	71.2	89.0	145.6	184.5	2639.1	4668.6
37051219760000	-79.81614	39.9552	36.9	1191.5	23.4	53.3	72.8	105.8	134.7	3449.4	6746.0
37051219770000	-79.73291	40.0585	23.4	1007.7	14.3	32.1	46.9	66.8	83.9	5640.4	11808.2
37051900170000	-79.52500	40.0148	95.8	2816.4	30.8	81.7	100.0	151.9	196.6	2265.5	4436.7
37053208980000	-79.23501	41.5733	55.2	1837.0	25.2	55.9	82.1	113.0	140.1	2912.4	7330.6
37053209030000	-79.29678	41.4846	65.8	2086.1	27.3	60.3	88.1	121.8	151.0	2681.1	6605.0
37053210830000	-79.20998	41.5969	55.6	1870.6	24.9	54.9	81.1	113.0	139.7	2954.1	7192.0
37053212500000	-79.26790	41.5632	59.9	1976.3	25.7	57.1	86.4	118.0	145.9	2766.5	6771.2
37053221850000	-79.34064	41.5845	55.0	1809.3	25.4	55.7	82.2	114.3	141.4	2906.4	7068.6
37053262220000	-79.41523	41.6201	59.1	1836.1	27.3	60.1	88.0	122.9	152.1	2683.4	6422.0
37053267680000	-78.97111	41.5223	26.7	842.2	21.0	60.5	87.6	124.4	153.8	2727.7	7272.4
37053267690000	-78.97111	41.5241	25.3	847.6	19.2	55.1	80.6	113.3	140.1	2977.1	8116.9
37053267700000	-78.97367	41.5241	25.0	841.2	19.0	54.6	79.8	112.2	138.7	3007.1	8211.3
37053267710000	-78.97367	41.5300	24.6	814.4	19.1	49.4	73.1	99.6	123.6	3360.1	9058.7
37053267720000	-78.97112	41.5297	25.0	843.4	19.0	48.6	71.9	98.3	122.0	3394.3	9110.9
37053267730000	-78.97112	41.5278	23.3	841.9	17.0	45.4	67.8	93.0	115.2	3709.6	9670.5
37053267740000	-78.96637	41.5286	25.5	842.2	19.6	53.2	78.1	108.2	134.0	3081.6	8402.7
37053267770000	-78.97842	41.5323	19.9	759.0	14.4	36.6	56.2	74.8	93.1	5130.4	11268.1
37053267780000	-78.98083	41.5324	21.7	805.0	15.7	38.2	58.3	77.8	96.7	4932.8	10903.6
37053267810000	-78.96564	41.5381	22.2	768.1	17.3	44.7	66.9	90.1	111.9	4100.9	9950.7
37053267820000	-78.96622	41.5365	22.0	748.9	17.3	46.6	69.6	93.8	116.5	3835.0	9721.1
37053267830000	-78.96321	41.5366	22.5	804.7	16.8	44.0	66.0	89.6	111.1	4049.1	9980.0
37053267840000	-78.99015	41.5387	23.8	879.0	16.9	34.5	52.6	70.2	87.6	5292.0	11322.7
37053267850000	-78.98777	41.5368	24.3	868.7	17.6	36.6	55.6	74.2	92.6	5023.1	10965.6
37053267870000	-78.99018	41.5369	25.2	879.0	18.5	38.3	57.9	77.4	96.5	4797.5	10654.4
37053267940000	-78.97519	41.5300	22.9	777.5	17.9	48.1	71.5	97.0	120.4	3557.9	9402.9
37053267950000	-78.97773	41.5298	21.6	758.6	16.6	45.2	67.7	91.6	113.7	3943.2	9929.6
37053267960000	-78.97858	41.5277	15.5	763.8	8.5	24.5	40.3	53.3	65.9	6592.1	12892.3
37053268020000	-78.97183	41.5337	20.8	744.9	15.8	41.3	62.5	83.5	103.9	4561.9	10558.5
37053268030000	-78.97378	41.5321	22.8	769.0	18.0	46.4	69.2	93.2	115.8	3892.8	9667.9
37053268040000	-78.97117	41.5316	23.5	814.1	17.8	45.0	67.2	90.9	112.9	3993.4	9781.0
37053268300000	-78.96401	41.5253	21.6	839.1	15.0	43.3	64.9	90.4	111.5	3793.6	10062.9
37053268690000	-78.98366	41.5332	18.2	680.6	13.5	38.7	59.5	79.2	98.3	4838.2	11136.7
37053274210000	-79.03874	41.5830	26.6	839.7	21.0	60.4	85.0	126.7	156.3	2523.0	6888.7
37053274230000	-78.95764	41.5789	16.5	683.4	11.0	22.4	36.0	48.3	61.2	6631.2	12931.0

37053274250000	-78.98758	41.6004	19.7	636.4	16.8	50.5	72.6	107.1	131.8	3062.0	8521.9
37053274750000	-79.01042	41.6035	12.3	659.9	5.0	14.7	26.6	35.3	42.3	8435.5	14688.3
37053275160000	-78.98502	41.6031	12.7	615.7	6.1	18.4	31.3	42.7	51.6	7714.2	14007.1
37053275180000	-78.98484	41.6013	12.8	620.6	6.1	18.6	31.6	43.1	52.1	7680.4	13974.2
37053275190000	-78.98539	41.5993	14.9	614.2	9.7	29.3	45.4	64.5	78.8	5845.4	12145.3
37053275290000	-78.96528	41.6057	19.3	609.9	16.9	51.3	73.7	108.4	133.5	3014.6	8418.8
37053275350000	-78.96824	41.6088	14.1	632.2	8.1	24.3	38.9	54.4	66.2	6704.9	13005.0
37053275370000	-78.97044	41.6096	17.4	628.8	13.3	40.2	59.3	86.3	105.9	4046.1	10295.3
37053275400000	-78.97186	41.6109	17.7	613.6	14.2	43.1	63.1	92.0	113.0	3521.6	9815.4
37053276120000	-79.19719	41.5958	16.0	609.6	11.4	33.9	52.3	72.2	88.9	5202.4	11502.5
37057200040000	-78.09653	39.9546	28.8	873.0	22.6	49.5	67.3	96.8	123.6	3642.6	7388.5
37059009650000	-80.42236	39.7815	34.6	975.7	26.3	68.7	81.7	113.7	143.7	4729.9	10559.1
37059200260000	-80.13100	39.8985	102.5	2453.6	38.1	101.1	122.7	203.1	258.6	1790.8	3566.3
37059200380000	-80.14600	39.8606	90.9	2639.3	31.0	82.0	101.0	166.9	211.8	2311.0	3924.9
37059200540000	-80.15690	39.8732	81.1	2323.2	31.0	81.8	101.4	165.2	210.0	2322.4	3995.6
37059215050000	-79.93489	39.7914	31.0	1161.6	18.9	42.3	59.6	82.3	105.1	4332.4	8928.0
37059215070000	-79.95563	39.7963	23.7	911.4	16.2	35.5	50.8	69.9	89.0	5228.1	10924.7
37059215080000	-79.93571	39.7963	23.7	929.3	15.8	35.1	50.3	69.3	88.1	5298.2	11077.1
37059215090000	-79.94653	39.7289	22.0	884.8	14.7	36.2	48.9	67.8	86.3	6006.1	12205.9
37059215160000	-79.94905	39.7856	27.3	884.8	20.6	45.1	62.4	87.0	111.4	4056.7	8300.3
37059215530000	-79.94334	39.7393	15.7	683.1	9.8	24.6	36.7	49.2	62.3	6858.7	13158.6
37059215720000	-80.01353	39.8151	49.7	1569.1	26.0	62.4	82.9	120.6	154.6	2998.0	5792.0
37059215930000	-80.00388	39.8266	50.2	1533.1	26.8	64.5	85.4	127.1	162.3	2903.1	5471.8
37059216700000	-80.20270	39.9854	54.6	1711.8	26.6	67.6	87.6	135.7	172.5	2754.5	5078.8
37059216800000	-80.20324	39.9786	49.9	1599.6	25.6	64.7	84.6	130.2	165.4	2845.4	5338.1
37059216810000	-80.20340	39.9609	57.8	1704.8	28.6	72.5	93.5	144.9	184.5	2590.6	4690.3
37059216850000	-80.16514	39.9836	58.4	1711.5	28.9	73.5	94.6	147.4	187.5	2550.3	4597.5
37059216910000	-80.16564	39.9609	61.6	1802.9	29.2	74.8	95.6	149.8	190.7	2517.2	4507.0
37059217290000	-80.19877	39.9600	53.7	1627.0	27.5	69.5	90.2	139.6	177.5	2672.8	4908.8
37059217300000	-80.19690	39.9556	50.7	1720.0	24.2	61.2	80.2	123.5	156.8	3018.1	5691.1
37059217340000	-80.20003	39.9762	48.7	1625.2	24.4	61.9	81.2	125.0	158.7	2962.3	5610.4
37059217370000	-80.20630	39.9531	51.6	1753.8	24.3	61.7	80.6	124.4	157.9	3000.0	5642.6
37059217500000	-80.19146	39.9561	52.4	1660.9	26.1	66.2	86.2	133.5	169.6	2793.6	5180.8
37059217600000	-80.21150	39.9594	50.4	1728.8	23.9	60.7	79.5	122.6	155.6	3036.6	5741.4
37059217630000	-80.01745	39.8259	44.0	1456.3	24.0	57.1	76.8	113.9	145.0	3239.7	6246.6

37059217650000	-80.21460	39.9563	55.3	1676.4	27.6	69.6	90.3	139.5	177.5	2683.8	4913.0
37059217760000	-80.21422	39.9682	50.2	1666.3	24.7	63.1	82.4	127.4	161.8	2907.1	5481.5
37059217800000	-80.21190	39.9523	56.0	1685.5	27.9	71.0	91.7	142.6	181.4	2623.6	4782.8
37059217810000	-80.20770	39.9624	46.0	1689.5	21.9	55.3	73.3	112.3	142.3	3299.2	6390.1
37059217890000	-80.19060	39.8099	59.6	1825.8	27.7	69.8	90.1	138.8	176.9	2710.6	4936.9
37059217900000	-80.21390	39.9885	58.7	1737.4	28.6	73.1	93.9	146.8	186.7	2563.5	4620.8
37059217910000	-80.16827	39.8117	57.3	1766.0	27.4	69.5	89.7	139.3	177.2	2696.8	4921.0
37059217920000	-80.17379	39.8069	56.4	1841.0	25.7	65.6	85.0	132.1	167.9	2844.7	5247.2
37059217930000	-80.17040	39.8158	55.7	1765.4	26.4	66.6	86.5	133.4	169.6	2812.7	5184.0
37059217940000	-80.18553	39.8057	60.9	1727.3	30.1	75.6	97.3	150.7	191.9	2507.5	4476.8
37059217950000	-80.23600	39.9890	47.1	1708.7	22.3	56.9	75.0	115.7	146.6	3206.1	6166.9
37059217980000	-80.24080	39.9695	50.8	1706.9	24.5	62.5	81.6	126.5	160.5	2946.0	5533.5
37059218100000	-80.19060	39.9620	52.3	1703.8	25.4	64.2	83.7	129.1	164.1	2889.1	5392.3
37059218170000	-80.18240	39.9701	48.5	1719.1	23.0	58.0	76.5	117.4	148.9	3168.5	6051.8
37059218200000	-80.19753	39.9673	53.9	1599.6	28.1	70.9	92.0	142.2	180.9	2624.1	4801.2
37059218210000	-80.19271	39.9682	53.5	1664.8	26.7	68.0	88.2	136.8	173.8	2728.0	5031.3
37059218220000	-80.16330	39.9719	49.2	1783.1	22.5	57.1	75.2	115.6	146.7	3223.3	6164.7
37059218230000	-80.21244	39.9631	55.9	1683.4	27.9	71.2	91.9	142.9	181.8	2612.8	4770.3
37059218370000	-79.99843	39.9025	51.3	1715.4	24.6	60.9	80.3	121.5	154.7	3062.0	5785.1
37059218450000	-80.18540	39.8107	59.0	1823.6	27.4	69.1	89.3	137.6	175.3	2733.6	4988.5
37059218870000	-80.17594	39.9632	45.0	1494.7	24.1	59.6	79.2	120.4	152.8	3072.5	5868.5
37059218890000	-80.19057	39.9646	73.0	1664.2	38.4	97.6	123.1	193.3	246.8	1897.4	3435.7
37059219640000	-80.11648	39.7260	55.3	1240.2	37.3	86.9	113.5	171.1	218.7	2103.6	3869.4
37059223620000	-80.27841	39.9205	22.8	733.4	18.9	42.3	59.5	86.1	108.9	4106.2	9065.8
37059224900000	-79.93260	39.9224	32.0	1153.7	19.9	45.1	62.9	91.2	115.6	3998.0	8094.3
37059224940000	-80.27139	39.9207	22.8	694.0	19.9	43.7	61.4	89.0	112.6	3918.6	8637.5
37059227230000	-80.15314	39.8515	23.8	1033.9	14.3	32.4	47.6	68.2	85.5	5514.1	11623.1
37059231040000	-79.97896	39.9082	43.5	1365.8	25.3	59.2	79.6	118.0	150.2	3131.5	5981.8
37059231250000	-80.36757	39.8786	54.0	1766.3	25.5	65.3	84.7	132.1	167.7	2829.5	5249.9
37059231350000	-80.35259	39.9432	27.7	1097.3	17.0	40.0	56.8	81.5	103.0	4396.4	9831.0
37059231390000	-79.96561	39.9187	33.4	1221.3	20.0	45.7	63.6	92.6	117.3	3974.5	7967.4
37059231440000	-79.95714	39.9408	46.6	1344.2	28.0	65.3	87.0	128.9	164.5	2864.0	5381.2
37059231500000	-79.96506	39.8443	41.0	1250.9	25.6	58.9	79.5	117.1	149.1	3144.5	6013.5
37059231530000	-79.93665	39.8539	42.1	1253.3	26.5	60.9	81.9	121.0	154.1	3048.5	5791.4
37059231590000	-80.35746	39.8873	25.5	1059.5	15.6	35.8	51.8	74.9	94.1	4893.0	10691.3

37059231640000	-80.36255	39.8832	55.4	1740.7	26.7	68.3	88.2	137.6	174.8	2719.5	4996.1
37059231680000	-80.36060	39.8916	59.4	1746.5	28.8	73.9	94.7	148.3	188.7	2536.0	4561.8
37059231830000	-80.32325	40.0000	28.0	999.4	19.0	44.4	64.5	88.6	112.3	3963.8	8931.3
37059232240000	-80.35900	39.9019	55.5	1695.6	27.4	69.3	89.8	138.8	176.6	2697.5	4940.9
37059233080000	-80.33970	39.9888	30.2	976.6	21.7	49.7	69.0	100.0	126.9	3420.0	7502.4
37059233090000	-79.99205	39.8538	41.3	1364.9	23.7	55.4	75.0	110.9	141.0	3328.4	6439.3
37059233100000	-79.99207	39.8509	53.4	1311.6	33.9	78.7	103.4	154.6	197.6	2339.8	4342.4
37059233140000	-79.98777	39.8538	34.5	1265.2	20.2	46.5	64.5	94.3	119.4	3912.3	7816.2
37059233490000	-80.36920	39.8873	60.2	1776.1	28.8	73.3	94.1	146.5	186.5	2573.0	4629.5
37059233520000	-80.36720	39.8848	54.7	1726.7	26.5	66.9	86.9	134.3	170.8	2787.0	5140.8
37059233530000	-80.01205	39.8197	32.6	1201.2	19.7	44.7	62.4	89.6	113.7	3987.4	8232.7
37059233540000	-79.97412	39.8023	36.2	1220.1	22.3	50.3	69.1	96.4	123.6	3658.1	7392.6
37059233550000	-79.97073	39.8018	26.9	901.0	19.9	43.6	60.6	84.3	107.9	4196.9	8623.5
37059233670000	-80.01342	39.8222	42.0	1282.6	25.7	59.3	80.0	117.2	149.4	3124.6	5997.9
37059233780000	-80.36540	39.8873	54.4	1746.5	26.0	65.7	85.4	132.0	167.8	2835.5	5249.2
37059233940000	-80.36170	39.8879	57.0	1731.3	27.7	70.1	90.6	140.4	178.6	2674.2	4874.7
37059234200000	-80.33820	39.9097	52.2	1813.9	23.8	61.4	79.9	124.8	158.2	2988.2	5628.8
37059234650000	-80.35020	39.8960	48.3	1748.0	22.5	57.3	75.4	116.3	147.4	3190.8	6125.9
37059234690000	-80.34850	39.9017	58.4	1761.7	28.0	71.7	92.2	143.8	183.0	2611.4	4735.0
37059236660000	-80.10140	39.9086	47.5	1786.7	21.6	54.1	71.9	109.5	138.9	3401.0	6577.3
37059237550000	-80.33630	39.7281	62.5	1728.8	31.0	77.5	99.6	154.3	196.7	2431.5	4349.4
37059242200000	-80.04630	39.7787	45.6	1705.1	21.5	52.5	70.6	101.3	129.8	3520.2	7078.1
37059242210000	-80.05060	39.7722	61.4	1725.8	30.3	75.6	97.5	149.7	191.0	2493.1	4510.5
37059242220000	-80.04920	39.7804	45.5	1699.3	21.5	52.5	70.5	100.2	128.7	3526.2	7130.7
37059242560000	-80.04340	39.7707	47.5	1785.2	21.6	54.2	72.0	110.0	139.4	3394.5	6550.8
37059242680000	-80.06150	39.7914	46.5	1734.6	21.6	52.6	70.7	100.2	128.7	3530.0	7125.1
37059247570000	-80.07200	39.9239	62.3	1706.9	31.2	77.4	99.8	153.0	195.3	2419.6	4396.1
37059248500000	-80.06890	39.9223	51.4	1680.1	25.3	62.4	82.2	124.6	158.6	2989.8	5616.2
37059248910000	-80.21240	39.9339	45.3	1781.3	20.4	51.8	68.9	105.7	133.7	3511.8	6891.2
37063200250000	-79.28710	40.5660	90.5	2249.7	36.2	96.1	117.7	194.0	246.7	1940.2	3439.1
37063200310000	-79.27920	40.5824	95.3	2370.4	36.4	96.5	117.9	195.1	248.0	1931.4	3442.0
37063200500000	-79.23840	40.6422	95.0	2409.8	35.7	94.1	115.6	190.2	241.7	1995.2	3450.6
37063200530000	-79.30610	40.5688	33.8	1075.9	23.0	53.2	72.9	107.8	136.7	3375.2	6678.8
37063200830000	-79.09900	40.5741	80.8	2283.3	31.4	82.3	102.4	165.4	210.4	2292.5	3996.2
37063201240000	-78.86910	40.9040	28.6	1066.2	18.4	41.6	58.8	85.6	108.1	4131.5	8996.9

37063201490000	-79.25110	40.6085	90.6	2190.6	37.2	98.4	120.7	197.3	251.2	1884.2	3534.9
37063201550000	-79.00400	40.4984	87.2	2484.1	31.5	82.7	102.3	161.4	206.7	2256.3	4127.6
37063201610000	-79.28670	40.6017	88.1	2382.9	33.2	87.7	108.2	177.9	226.0	2166.8	3686.0
37063202770000	-78.95660	40.5198	83.6	2624.9	28.4	75.3	93.1	149.4	190.6	2528.2	4522.2
37063202830000	-78.98760	40.8127	74.6	2211.6	29.7	78.0	97.5	157.2	199.8	2450.9	4249.7
37063202960000	-78.87130	40.8298	93.4	2415.8	34.9	92.4	113.1	186.2	236.8	2000.5	3861.6
37063203000000	-79.13000	40.5559	82.4	2355.8	31.2	81.9	101.6	165.4	210.2	2304.4	3995.1
37063203820000	-79.11300	40.5538	86.8	2345.7	33.2	86.9	107.5	173.1	220.7	2139.6	3933.6
37063203970000	-79.11570	40.5605	76.2	2341.5	28.7	75.4	94.2	152.4	193.5	2535.3	4415.8
37063204120000	-79.10450	40.5537	83.5	2314.4	32.2	84.1	104.5	167.4	213.4	2222.8	3953.7
37063204210000	-79.10220	40.5730	86.8	2198.2	35.4	92.2	114.2	184.2	234.7	2000.9	3881.2
37063204260000	-79.12140	40.5293	85.9	2300.3	33.4	87.3	108.2	173.1	220.9	2125.8	3905.9
37063204610000	-78.88660	40.8906	81.6	2329.0	31.2	82.2	101.9	165.6	210.6	2305.8	3988.4
37063204750000	-79.09050	40.5960	67.2	2334.2	25.0	65.6	83.0	133.9	169.7	2866.4	5169.8
37063204780000	-78.98470	40.8443	81.2	2271.4	31.8	84.2	104.1	170.2	216.3	2262.9	3869.0
37063205800000	-79.01210	40.8635	85.7	2349.4	32.6	86.3	106.6	174.9	222.2	2211.6	3753.8
37063206940000	-79.03050	40.6481	72.7	2393.9	26.6	70.4	88.0	143.3	181.7	2694.2	4762.0
37063210820000	-79.02210	40.9058	63.9	2261.0	24.3	64.1	81.5	129.1	164.0	2856.1	5394.4
37063211170000	-79.12500	40.6250	33.3	919.0	26.4	59.3	80.1	119.0	151.2	3094.6	5897.7
37063213300000	-78.85170	40.6511	74.2	2451.2	26.6	69.8	87.6	136.4	174.5	2748.0	5030.9
37063214010000	-78.86340	40.6396	94.3	2471.9	34.5	90.7	111.4	175.7	225.4	2017.3	3960.7
37063214480000	-78.83330	40.6667	92.6	2545.7	32.8	86.5	106.3	166.9	214.3	2134.4	4003.8
37063214580000	-78.85030	40.6416	98.0	2713.0	32.8	87.3	106.2	171.3	219.1	2114.9	3957.9
37063214760000	-78.87450	40.6296	90.3	2468.3	32.9	86.6	106.7	169.3	216.7	2137.5	4037.6
37063214960000	-78.88620	40.6193	74.6	2518.9	26.1	68.6	86.0	134.6	172.0	2791.5	5115.6
37063215630000	-78.93910	40.6013	87.4	2511.3	31.2	82.3	101.5	164.9	209.9	2276.2	4011.4
37063217850000	-78.98240	40.8079	31.3	1016.5	21.9	49.0	68.0	99.6	126.2	3646.9	7293.1
37063220380000	-79.03010	40.7689	68.5	2350.0	25.3	66.8	84.2	136.5	172.9	2811.7	5054.3
37063221630000	-79.30149	40.5619	33.5	1139.7	21.5	50.7	69.7	102.2	129.7	3354.0	7360.3
37063228130000	-78.91360	40.6200	99.4	2479.9	36.4	96.0	117.3	190.8	243.4	1883.4	3764.1
37063228880000	-78.95120	40.5930	84.7	2476.8	30.6	80.6	99.7	161.2	205.3	2337.3	4123.3
37063229690000	-78.96400	40.5778	88.9	2497.2	32.0	84.3	103.9	167.3	213.4	2208.9	4012.1
37063230140000	-78.89740	40.6091	81.0	2473.2	29.1	76.5	95.2	149.2	191.0	2480.3	4527.5
37063234210000	-78.87730	40.6405	78.1	2546.9	27.2	71.6	89.3	141.7	180.8	2675.7	4815.8
37063235040000	-78.88980	40.6286	87.5	2526.5	31.1	81.9	101.0	161.0	205.8	2286.8	4136.1

37063235200000	-78.90530	40.6300	85.7	2516.7	30.5	80.5	99.4	161.4	205.4	2340.0	4116.7
37063236380000	-78.97370	40.5689	85.8	2521.3	30.4	80.3	99.2	160.7	204.6	2343.2	4140.5
37063242010000	-79.32850	40.5211	73.8	2392.7	27.1	71.8	89.7	146.7	185.8	2617.0	4627.4
37063242210000	-79.12872	40.7473	31.3	897.9	24.9	56.0	76.8	111.5	141.9	3164.4	6346.2
37063243190000	-78.92080	40.5916	91.8	2515.2	32.9	86.9	106.7	172.7	220.3	2131.7	3970.0
37063243210000	-78.88300	40.6567	96.2	2510.3	34.8	91.9	112.3	183.7	234.1	1998.1	3900.5
37063247150000	-79.05730	40.4636	36.3	1144.8	23.9	54.7	74.6	110.1	139.8	3346.2	6485.4
37063249950000	-79.06556	40.4579	37.1	1202.1	23.3	54.0	73.6	108.9	138.2	3386.8	6586.2
37063250730000	-79.18590	40.5789	96.6	2392.7	36.6	96.7	118.1	194.0	247.1	1893.8	3706.4
37063251510000	-78.82450	40.7138	88.5	2607.9	30.5	81.0	99.4	164.0	208.3	2326.9	4033.4
37063252830000	-79.06940	40.6624	80.0	2411.3	29.5	78.1	96.7	158.8	201.5	2450.2	4193.9
37063254370000	-78.91580	40.5560	84.2	2625.9	28.6	75.9	93.7	151.5	193.0	2506.6	4447.8
37063256110000	-78.89550	40.6499	85.9	2542.3	30.2	80.1	98.7	161.5	205.3	2359.0	4111.2
37063258260000	-78.93030	40.5875	88.7	2555.4	31.2	82.5	101.5	164.7	209.8	2269.2	4017.7
37063261930000	-78.97520	40.6836	74.5	2345.1	28.0	73.7	92.1	149.4	189.7	2587.5	4522.6
37063263170000	-78.96520	40.6952	84.7	2371.3	31.9	84.4	104.1	170.2	216.4	2235.1	3873.5
37063265520000	-79.31160	40.5374	90.2	2359.2	34.4	91.4	112.0	185.0	235.1	2056.4	3552.1
37063270040000	-78.98540	40.6773	65.7	2512.2	22.6	60.1	75.8	124.0	156.7	3082.9	5689.7
37063271090000	-78.83660	40.7067	93.4	2583.2	32.7	86.8	106.0	175.3	222.9	2145.5	3899.5
37063272470000	-78.85429	40.8144	29.9	1037.2	20.2	45.9	64.1	93.7	118.5	3724.6	8065.2
37063274890000	-79.33210	40.5414	90.4	2382.6	34.2	90.2	111.1	182.7	232.1	2097.0	3562.8
37063275580000	-78.86000	40.6713	98.7	2547.5	35.2	93.1	113.6	185.9	236.9	1959.3	3862.0
37063283440000	-78.85010	40.6828	90.6	2578.3	31.6	83.7	102.8	168.1	213.9	2229.4	4037.9
37063291670000	-78.84320	40.6929	90.1	2587.8	31.3	83.1	101.9	167.2	212.6	2254.9	3971.3
37063291710000	-79.03394	40.7709	30.3	1082.7	19.7	45.3	63.3	92.9	117.4	3765.1	8252.7
37063295000000	-78.90200	40.6440	76.2	2511.6	26.8	70.8	88.3	143.3	181.9	2703.8	4758.6
37063295140000	-79.04770	40.6010	70.3	2379.3	25.8	68.0	85.5	138.8	175.8	2782.3	4952.2
37063296220000	-79.12689	40.7272	35.9	1156.1	23.3	55.2	75.1	110.5	140.5	3220.9	6562.0
37063296350000	-79.12587	40.7366	33.1	1149.1	20.9	49.6	68.4	99.9	126.7	3426.5	7633.2
37063300440000	-79.12297	40.4924	30.4	1034.2	20.7	46.3	64.6	94.6	119.6	3787.3	7774.4
37063302240000	-79.10619	40.8385	34.6	1140.3	22.5	54.0	76.0	106.4	135.4	3126.6	7091.7
37063308000000	-79.29311	40.5959	32.6	1111.6	21.2	49.9	68.9	100.2	127.3	3404.2	7577.0
37063311490000	-78.85759	40.7138	39.6	1224.7	25.0	58.6	79.2	118.0	149.9	3118.5	6005.6
37063311800000	-79.22100	40.4639	40.5	1206.7	26.1	59.5	80.3	118.2	150.6	3111.5	5938.4
37063314720000	-79.21934	40.4782	36.6	1252.1	22.0	50.8	69.7	102.4	129.9	3601.7	7072.9

37063314730000	-79.24512	40.4554	35.7	1224.1	21.8	50.0	68.8	100.9	128.0	3655.5	7194.4
37063314970000	-79.22112	40.6116	35.2	1189.9	22.1	52.4	71.7	106.1	134.5	3273.5	6995.2
37063315080000	-78.88257	40.6935	47.0	1528.3	24.9	61.6	81.5	123.9	157.4	2991.7	5665.0
37063315090000	-78.87924	40.6859	48.1	1527.4	25.6	63.3	83.5	127.1	161.5	2921.9	5495.3
37063316810000	-78.88257	40.6820	44.9	1531.9	23.4	57.8	77.0	116.7	148.1	3172.6	6091.5
37063316870000	-78.88798	40.7052	51.6	1538.0	27.7	68.7	89.9	137.5	175.0	2708.4	4997.3
37063316920000	-79.21765	40.4689	34.2	1195.4	21.1	48.1	66.5	97.1	123.1	3800.0	7521.2
37063316940000	-78.95680	40.5822	79.3	2554.5	27.5	72.7	90.4	145.1	184.8	2634.5	4683.6
37063316970000	-78.88104	40.6786	44.2	1524.0	23.1	56.9	76.0	115.0	145.9	3219.2	6202.8
37063317530000	-78.88888	40.7009	48.8	1537.4	25.9	64.2	84.5	128.9	163.9	2879.0	5398.7
37063317570000	-78.89249	40.7016	43.7	1531.3	22.7	56.2	75.1	113.8	144.3	3245.2	6283.3
37063317620000	-78.87470	40.6217	93.5	2599.3	32.5	85.9	105.3	167.5	214.5	2154.3	4017.8
37063318950000	-79.21947	40.4279	29.2	1068.3	18.9	42.4	59.5	84.3	107.2	4223.4	8789.8
37063319290000	-78.88311	40.6757	43.6	1515.5	22.8	56.1	75.0	113.4	143.9	3261.7	6307.7
37063319300000	-78.87915	40.6752	45.1	1529.2	23.6	58.1	77.4	117.2	148.8	3160.3	6056.1
37063319330000	-78.87300	40.6923	47.1	1530.1	24.9	61.5	81.3	123.7	157.1	2998.9	5678.6
37063319450000	-78.88790	40.6514	91.6	2561.8	32.2	85.4	104.6	171.6	218.4	2182.3	4023.6
37063320140000	-78.93578	40.7068	46.7	1502.1	25.1	62.1	82.2	124.9	158.7	2964.6	5609.9
37063320210000	-79.16511	40.8248	31.5	1073.2	21.0	49.7	70.9	98.4	125.0	3410.3	7856.0
37063320220000	-78.93668	40.6988	52.3	1501.8	28.8	71.2	93.1	142.3	181.2	2618.9	4796.0
37063320290000	-78.87600	40.6135	75.0	2573.1	25.6	67.7	84.7	132.9	169.8	2826.5	5190.3
37063320410000	-78.94588	40.6983	45.7	1460.9	25.1	61.8	82.0	124.3	157.9	2976.7	5645.3
37063321620000	-79.02206	40.8824	32.3	1131.4	20.6	49.3	69.9	97.9	124.3	3441.9	7939.4
37063321630000	-78.86900	40.6201	74.9	2558.8	25.8	68.0	85.1	134.7	171.8	2813.4	5115.4
37063322010000	-79.30569	40.6590	29.2	1130.2	17.9	42.8	61.7	85.9	108.8	4122.9	9332.6
37063322030000	-78.87875	40.7117	40.8	1418.5	22.4	54.6	73.6	110.6	140.3	3329.0	6502.5
37063322040000	-79.06523	40.5209	86.0	2471.9	31.1	82.7	101.7	167.7	213.0	2288.9	3906.6
37063322130000	-78.87084	40.7023	42.1	1530.7	21.6	53.5	71.8	108.6	137.6	3398.4	6655.7
37063322450000	-79.05114	40.6137	28.4	1006.1	19.3	43.5	61.2	89.3	112.7	3930.3	8600.4
37063322890000	-79.01709	40.8936	36.1	1168.3	23.2	56.0	78.4	110.2	140.3	3041.6	6738.4
37063323110000	-78.86570	40.7281	43.4	1499.3	22.9	56.7	75.7	114.6	145.4	3220.2	6229.9
37063323140000	-78.85336	40.7269	43.1	1621.5	21.0	52.7	70.5	107.3	135.9	3442.5	6757.6
37063323560000	-78.86227	40.7277	44.6	1508.8	23.6	58.4	77.7	117.8	149.6	3136.5	6021.2
37063323570000	-78.87984	40.7007	41.6	1439.6	22.6	55.3	74.3	111.9	141.9	3293.5	6411.0
37063323590000	-79.03895	40.8883	31.9	1102.5	20.8	49.5	70.6	98.2	124.6	3420.8	7908.1

37063323810000	-78.88296	40.7046	38.8	1441.4	20.7	50.6	68.7	103.0	130.4	3524.2	7260.7
37063324190000	-79.12594	40.7960	30.6	1129.6	19.1	45.6	64.9	91.4	115.8	3756.2	8659.8
37063324200000	-79.13403	40.7919	29.5	1129.6	18.1	43.3	61.9	87.0	110.2	4059.1	9183.3
37063324400000	-79.11868	40.8179	30.4	1114.4	19.2	45.9	65.9	91.5	115.9	3765.3	8666.4
37063324630000	-78.85340	40.7239	47.8	1706.3	22.8	56.9	75.4	115.0	145.9	3235.8	6201.6
37063324650000	-78.87276	40.6994	46.9	1669.1	22.7	57.2	75.7	115.9	147.0	3198.2	6146.7
37063324710000	-79.06145	40.5178	44.8	1449.9	24.7	59.5	79.5	119.6	151.9	3099.8	5910.3
37063324730000	-78.87930	40.7040	47.1	1687.4	22.6	56.2	74.7	113.8	144.4	3275.8	6280.3
37063324850000	-78.84917	40.7216	41.5	1385.3	23.5	56.8	76.4	114.7	145.6	3213.8	6217.2
37063324860000	-78.84982	40.7245	41.2	1405.7	22.9	55.7	74.9	112.6	142.8	3272.4	6363.2
37063326070000	-78.88038	40.6886	39.4	1438.4	21.1	51.4	69.8	104.6	132.4	3523.9	7028.2
37063326080000	-78.88474	40.6843	39.4	1439.6	21.1	51.4	69.7	104.5	132.4	3526.0	7029.3
37063326720000	-79.10516	40.7286	30.3	1104.6	19.2	45.0	62.9	91.8	116.1	3777.4	8506.1
37063326900000	-79.12897	40.7945	30.0	1131.4	18.6	44.4	63.4	89.2	113.0	3920.0	8921.1
37063327520000	-78.90859	40.7922	35.3	1473.7	17.9	44.0	60.6	90.5	114.2	3870.4	8744.6
37063328430000	-78.94155	40.6993	42.2	1492.9	22.2	54.9	73.6	111.2	141.1	3313.6	6459.9
37063328440000	-78.93967	40.6705	39.0	1501.8	20.0	49.3	66.9	100.6	127.3	3500.2	7567.3
37063329510000	-79.33272	40.6106	28.0	1281.4	14.9	36.7	53.7	74.7	94.1	4897.5	10853.0
37063329560000	-79.41766	40.5074	29.5	1310.6	15.7	38.6	55.3	78.7	99.4	4591.6	10331.2
37063330180000	-79.31976	40.6229	32.3	1223.5	19.1	46.6	66.3	92.9	117.7	3649.6	8580.1
37063332230000	-79.29815	40.6469	32.1	1158.2	19.9	47.9	68.0	95.5	121.2	3528.2	8220.3
37063332600000	-79.38507	40.5185	38.3	1208.5	24.2	57.9	78.3	115.9	147.4	3123.5	6125.2
37063332820000	-79.41986	40.5094	24.0	1181.1	12.7	30.7	46.1	63.8	80.0	5982.6	12237.1
37063333480000	-79.01472	40.8725	31.5	1161.0	19.4	46.6	65.8	93.3	118.4	3638.7	8443.6
37063334410000	-78.95398	40.6599	38.0	1414.9	20.5	49.9	67.9	101.6	128.6	3510.9	7400.6
37063334630000	-79.30068	40.6444	33.4	1217.4	20.0	48.8	68.9	97.0	123.2	3470.3	8090.6
37063335910000	-78.95096	40.6516	38.6	1376.2	21.5	52.0	70.6	105.5	133.7	3487.1	6912.2
37063335920000	-78.95368	40.6535	37.3	1404.5	20.2	48.9	66.8	99.7	126.2	3521.6	7577.4
37063336070000	-78.90140	40.8249	45.7	1714.2	21.4	53.6	71.5	108.8	137.9	3413.6	6638.6
37063336340000	-79.15434	40.8600	31.7	1085.1	20.9	49.9	71.2	98.4	124.9	3384.1	7918.2
37063336520000	-79.02585	40.8722	31.2	1137.5	19.6	46.8	66.3	93.5	118.6	3627.5	8419.0
37063336530000	-78.86857	40.8491	31.8	1051.0	21.7	49.5	68.4	100.6	127.4	3487.1	7300.1
37063336840000	-79.16818	40.8100	31.4	1108.9	20.2	48.2	68.8	95.9	121.7	3507.9	8148.5
37063337160000	-79.22397	40.4323	33.0	1192.1	20.2	45.7	63.6	90.8	115.5	3967.5	8061.3
37065200140000	-78.87640	40.9334	53.8	2325.6	19.3	51.1	66.1	106.0	133.7	3545.9	6905.9

37065201710000	-78.84290	41.0472	70.9	2227.9	27.8	71.9	93.4	140.3	178.5	2545.2	4868.5
37065202660000	-78.84020	40.9454	75.4	2240.3	29.7	77.9	97.3	157.2	199.9	2451.4	4248.7
37065203480000	-78.90980	41.0326	85.5	2175.7	35.2	93.4	114.8	185.5	236.7	2029.0	3454.7
37065203770000	-78.97010	40.9807	84.0	2203.4	34.1	90.1	111.4	178.1	227.5	2118.9	3595.7
37065203800000	-78.95360	40.9931	53.3	2246.7	19.7	52.0	67.7	106.0	134.2	3230.1	7325.5
37065203860000	-78.95270	40.9966	88.5	2280.5	34.9	91.9	113.5	182.1	232.4	2070.8	3520.1
37065204040000	-78.98550	40.9690	97.3	2193.3	40.3	106.5	130.2	209.2	267.6	1740.2	3234.4
37065204110000	-78.99690	40.9679	71.4	2227.8	28.0	73.9	93.0	146.9	187.3	2511.3	4613.1
37065204160000	-78.98690	40.9616	68.0	2214.7	26.6	70.5	88.8	141.3	179.8	2618.8	4836.1
37065204210000	-78.99090	40.9719	88.6	2218.9	35.9	94.7	116.8	186.5	238.4	2002.6	3406.1
37065204220000	-78.99740	40.9575	70.8	2221.4	27.8	73.5	92.4	146.6	186.8	2524.2	4624.8
37065204260000	-79.02080	40.9442	34.8	1113.1	23.2	54.7	74.7	109.0	138.7	3140.1	6709.6
37065204290000	-78.99850	40.9618	88.2	2308.0	34.3	89.9	111.7	177.3	226.6	2125.1	3602.9
37065204300000	-79.02170	40.9487	84.5	2199.1	34.4	90.7	112.5	178.3	228.0	2105.8	3572.4
37065204310000	-78.97970	40.9660	79.4	2246.4	31.3	82.7	102.9	164.6	209.8	2290.0	4023.1
37065204320000	-79.00500	40.9510	64.4	2177.8	25.4	67.4	85.3	134.8	171.6	2726.0	5115.8
37065204340000	-79.04070	40.9213	78.8	2181.8	32.0	84.7	105.4	167.0	213.4	2236.1	3933.2
37065204480000	-79.00830	40.9567	64.2	2230.2	24.8	65.3	83.1	130.6	166.2	2802.5	5312.1
37065204490000	-79.01460	40.9511	62.3	2196.1	24.3	64.1	81.8	128.2	163.1	2844.2	5434.9
37065204500000	-79.03740	40.9286	71.6	2181.8	28.7	76.0	95.2	151.2	192.7	2450.3	4459.0
37065204600000	-78.99020	40.9640	83.9	2193.0	34.2	90.5	111.8	178.8	228.4	2108.8	3579.3
37065204640000	-78.99420	40.9537	61.5	2236.6	23.5	62.0	79.1	124.9	158.7	2935.7	5611.2
37065204710000	-79.04340	40.9296	57.8	2184.2	22.3	59.1	75.8	119.0	151.1	3055.4	5948.1
37065204730000	-78.96290	40.9926	78.8	2179.9	32.0	84.9	105.3	168.0	214.5	2234.5	3838.4
37065204740000	-79.00590	40.9594	60.1	2201.9	23.2	61.3	78.6	123.0	156.3	2957.0	5713.1
37065204750000	-79.05190	40.9134	72.4	2206.5	28.7	75.8	95.3	150.3	191.7	2454.8	4491.4
37065204770000	-79.03600	40.9354	67.6	2231.1	26.3	69.3	87.6	138.4	176.2	2658.9	4957.8
37065204790000	-79.04350	40.9333	78.4	2198.5	31.6	83.5	103.9	165.6	211.3	2265.0	3996.2
37065204800000	-78.92410	41.0122	65.3	2369.5	23.8	62.4	79.6	127.5	161.5	2936.8	5490.2
37065204840000	-79.03290	40.9249	71.3	2213.5	28.2	74.4	93.4	148.2	188.9	2497.8	4564.7
37065204850000	-78.99650	40.9629	62.5	2146.7	24.9	66.0	83.9	131.9	167.9	2768.7	5248.5
37065204870000	-79.05920	40.9211	87.1	2202.5	35.5	93.6	115.8	183.8	235.1	2033.8	3455.3
37065204880000	-79.00510	40.9435	68.6	2146.4	27.8	73.7	92.4	146.8	187.0	2514.0	4618.9
37065204950000	-79.02280	40.9572	64.5	2199.4	25.3	66.5	85.2	132.0	168.2	2750.0	5241.0
37065205000000	-79.02870	40.9325	65.5	2181.8	25.9	68.6	86.7	137.4	174.9	2679.4	4999.6

37065205100000	-79.02740	40.9486	78.0	2211.0	31.2	82.2	102.9	162.2	207.2	2291.0	4098.6
37065205120000	-79.03640	40.9390	66.3	2145.8	26.7	70.8	89.6	140.6	179.2	2599.8	4862.7
37065205230000	-78.96450	40.9811	82.1	2173.2	33.6	89.2	110.3	176.6	225.5	2140.3	3631.3
37065205380000	-79.01000	40.9394	75.0	2183.3	30.2	80.0	99.8	158.6	202.4	2346.7	4208.0
37065205530000	-78.94780	40.9988	66.4	2299.4	25.0	65.7	83.5	132.2	168.0	2797.6	5241.5
37065211360000	-79.16360	40.9701	77.1	2236.9	30.4	78.4	101.5	153.2	194.5	2349.1	4391.0
37065211730000	-79.11965	41.1560	27.1	912.3	19.8	48.7	67.8	92.9	116.7	3681.1	9036.0
37065212130000	-79.02600	40.9916	74.3	2172.3	30.1	78.8	100.9	153.1	195.7	2356.4	4394.2
37065212840000	-79.17864	41.0984	17.1	648.0	12.5	28.5	43.5	56.9	70.8	6510.7	12778.5
37065212850000	-78.92140	41.0274	78.0	2214.1	31.2	82.6	102.6	165.1	210.3	2293.1	4005.5
37065214490000	-78.95420	41.0427	79.4	2184.5	32.2	84.7	107.5	164.7	210.7	2224.0	4029.5
37065215580000	-79.13045	41.2228	19.8	865.0	12.4	30.1	45.2	60.0	74.7	6263.1	12526.6
37065215680000	-79.13463	41.2268	26.5	866.9	20.1	48.8	68.2	93.1	117.0	3667.0	8975.8
37065218140000	-79.02870	41.1773	25.7	1010.1	16.5	41.3	58.5	80.1	100.3	4546.0	10448.7
37065220950000	-79.19221	41.0214	31.5	1074.7	21.0	52.6	72.9	101.6	127.5	3319.8	8191.3
37065221600000	-78.93641	40.9855	33.6	1149.7	21.4	51.5	72.6	102.0	129.6	3290.3	7518.3
37065221610000	-78.94166	40.9872	33.7	1156.1	21.4	51.5	72.8	101.9	129.5	3288.9	7539.6
37065221620000	-78.94166	40.9827	33.5	1140.3	21.5	51.6	72.7	102.1	129.8	3286.3	7499.2
37065223190000	-78.94256	40.9768	33.7	1112.5	22.2	52.9	74.3	104.6	133.1	3201.5	7211.4
37065223650000	-78.94256	40.9794	33.3	1124.7	21.6	51.6	72.8	102.3	130.0	3281.9	7462.9
37065223660000	-78.93803	40.9767	37.0	1157.3	24.2	58.3	80.7	114.7	146.2	3037.0	6310.0
37065224640000	-79.19637	40.9881	32.1	1073.8	21.5	53.2	74.9	104.1	130.9	3266.7	7818.7
37065224740000	-78.94546	40.9742	32.6	1110.7	21.2	50.5	71.3	100.3	127.4	3357.3	7658.0
37065224750000	-78.94672	40.9717	33.4	1132.0	21.5	51.5	72.4	102.2	129.9	3288.4	7469.5
37065225570000	-78.91050	41.0010	33.4	1132.0	21.5	51.6	72.7	102.2	129.9	3284.8	7478.1
37065226450000	-79.10484	40.9699	31.7	1087.2	20.9	51.6	72.9	101.7	127.8	3387.5	8010.8
37065226460000	-79.10252	40.9676	31.7	1085.4	20.9	51.5	72.9	101.7	127.8	3384.8	7993.3
37065232520000	-79.17166	41.0986	29.5	924.8	22.2	54.6	75.0	103.3	130.0	3189.2	8026.8
37065232940000	-78.96297	41.0655	30.1	1052.5	20.1	48.9	69.8	97.3	122.2	3605.8	8367.6
37065233600000	-79.19024	41.0752	22.9	815.3	17.1	40.8	58.5	79.0	98.9	4646.4	10455.9
37065233810000	-79.20540	41.0781	25.7	932.1	17.9	44.1	62.2	85.0	106.6	4171.1	9879.4
37065234090000	-79.08555	41.0603	30.2	1036.3	20.4	50.5	71.1	98.6	123.7	3467.3	8379.8
37065234100000	-79.06290	41.0109	60.9	2165.0	24.0	61.4	81.8	120.2	151.4	2603.2	6528.0
37065234130000	-78.93449	41.2565	25.0	919.3	17.4	42.6	60.5	82.3	103.2	4355.3	10153.0
37065234190000	-79.00550	41.3395	61.0	2169.6	24.0	60.9	81.2	117.7	148.1	2642.0	6775.0

37065235890000	-78.94749	41.0610	27.6	1069.2	17.4	42.3	61.4	85.2	106.7	4164.2	9682.4
37065236190000	-78.96312	41.0175	29.3	1120.1	18.2	44.1	63.6	87.9	110.9	4012.6	9221.1
37065236320000	-78.91893	41.0026	26.2	977.2	17.6	40.8	59.8	82.3	104.0	4349.5	9705.6
37065236420000	-78.96541	41.1347	18.4	928.4	10.2	24.9	38.7	51.1	63.0	7055.5	13355.5
37065236430000	-78.96160	41.1368	26.1	958.3	17.8	43.9	62.2	85.1	106.6	4169.3	9861.1
37065237290000	-79.08351	40.9725	23.0	979.6	14.3	34.4	51.8	70.3	87.4	5317.6	11443.1
37065237390000	-79.17583	41.0970	24.1	939.4	16.1	39.8	56.8	77.2	96.6	4805.5	10736.4
37065239120000	-79.14496	41.1071	18.7	736.4	13.2	30.8	46.3	61.2	76.2	6148.8	12371.9
37065239140000	-79.13857	41.1091	24.5	962.6	16.1	39.8	56.9	77.4	96.8	4777.9	10719.8
37065239150000	-79.13589	41.1088	24.7	978.4	16.0	39.8	56.9	77.5	96.9	4766.8	10714.7
37065239170000	-79.12972	41.1216	24.5	962.6	16.1	39.8	56.9	77.4	96.8	4781.2	10722.8
37065239210000	-79.15058	41.0985	19.0	738.8	13.6	31.7	47.4	62.8	78.2	6002.1	12201.2
37065239240000	-79.13559	41.0996	26.1	960.1	17.8	44.0	62.2	85.1	106.6	4169.7	9871.3
37065239320000	-79.13610	41.1126	22.3	969.3	13.8	34.1	49.9	67.3	83.9	5642.2	11813.0
37065239330000	-79.13752	41.0953	27.2	960.1	19.0	46.8	65.7	90.2	113.1	3861.1	9323.5
37065239340000	-79.13567	41.0970	28.9	960.1	20.7	51.1	71.0	97.8	122.9	3404.0	8541.5
37065239390000	-79.15352	41.0962	21.0	912.0	13.1	32.2	47.6	63.8	79.4	5945.6	12163.4
37065239410000	-79.15384	41.0989	24.4	958.6	16.1	39.8	56.9	77.3	96.8	4785.7	10724.2
37065240130000	-79.13618	41.1185	25.0	961.3	16.6	41.3	58.6	79.9	100.0	4568.2	10448.4
37065240140000	-79.15530	41.1185	23.1	945.8	14.9	36.9	53.3	72.1	90.1	5238.0	11294.8
37065240250000	-79.21087	41.1212	25.3	945.5	17.3	42.7	60.4	82.4	103.2	4363.0	10173.6
37065240500000	-79.14576	41.1231	25.8	976.0	17.2	42.7	60.3	82.4	103.3	4356.8	10183.8
37065240540000	-79.11847	41.1242	24.9	992.1	16.0	39.9	56.9	77.6	97.0	4758.8	10712.0
37065240990000	-79.12700	41.1065	25.8	977.2	17.2	42.6	60.4	82.6	103.4	4319.3	10152.9
37065241900000	-79.21069	41.1240	31.3	955.2	23.3	57.9	79.0	109.2	137.6	3024.3	7510.8
37065242660000	-79.01538	40.9193	34.0	1178.4	21.2	51.4	72.5	101.6	129.1	3293.5	7594.0
37065242800000	-79.07346	40.9149	31.0	1122.9	19.6	47.3	67.7	93.6	118.7	3631.7	8469.2
37065243210000	-79.20927	41.1538	38.4	1359.4	21.7	57.1	76.0	108.0	136.0	3043.3	7831.8
37065243800000	-78.84328	40.9239	26.8	1093.3	16.3	37.4	53.7	77.8	97.9	4663.1	10244.2
37065243810000	-78.91739	40.9219	32.4	1143.0	20.5	48.4	66.9	97.8	124.0	3513.0	7840.0
37065243820000	-78.92107	40.9204	29.9	1118.0	18.7	43.9	61.5	89.3	113.0	3887.6	8827.3
37065244460000	-78.87535	41.0436	28.0	1060.4	17.9	43.0	62.5	86.0	108.3	4123.1	9434.8
37065244780000	-78.89265	40.9378	29.3	1118.0	18.2	42.6	60.0	87.3	110.3	4037.5	9080.4
37065244960000	-78.84618	40.9719	31.0	1116.5	19.7	46.1	64.2	94.0	118.9	3695.3	8249.4
37065245040000	-78.83241	40.9684	30.1	1006.5	20.9	52.0	72.2	99.9	125.5	3341.7	8341.2

37065245280000	-79.20857	41.2073	20.8	705.0	16.7	38.7	56.1	74.9	93.8	4941.1	10853.6
37065245430000	-78.83783	40.9655	24.8	1025.7	15.4	35.3	51.1	73.7	92.6	4994.2	10858.1
37065245950000	-78.83445	40.9742	29.1	1060.1	19.0	44.0	61.7	90.1	113.8	3875.6	8694.8
37065245960000	-78.83025	40.9786	29.0	1048.8	19.0	44.0	61.8	90.1	113.9	3871.1	8679.2
37065246240000	-78.83022	40.9706	31.8	1098.2	20.8	52.7	72.5	101.1	127.0	3304.7	8287.4
37065246400000	-78.82182	40.9944	30.6	1090.6	19.8	46.3	64.5	94.1	119.1	3674.5	8231.6
37065246480000	-78.98090	41.2538	23.6	983.3	14.9	37.1	53.4	72.5	90.5	5203.1	11267.4
37065246510000	-78.82803	41.0766	29.1	1097.9	18.3	45.4	65.0	90.0	112.7	3869.6	9268.3
37065246520000	-78.88856	41.0416	31.9	1063.8	21.6	51.3	73.0	100.8	128.1	3302.0	7638.8
37065246530000	-78.88970	41.0371	31.2	1137.5	19.6	47.1	67.4	93.5	118.5	3618.8	8470.7
37065246590000	-78.98264	41.2589	26.9	1016.2	17.6	44.1	61.9	84.9	106.5	4172.5	9936.2
37065246720000	-79.20110	41.2047	27.0	989.4	18.2	45.6	63.8	87.4	109.7	4034.6	9670.1
37065246950000	-78.80906	40.9311	26.7	1007.7	17.6	39.8	56.7	82.2	103.6	4349.4	9557.4
37065246960000	-78.81110	40.9289	26.1	998.8	17.1	38.5	55.1	79.8	100.5	4516.2	9893.3
37065247250000	-78.80791	40.9688	28.9	1085.1	18.3	42.3	59.6	87.2	110.0	4039.5	8990.8
37065247260000	-78.81913	40.9708	28.8	1035.4	19.1	43.8	61.6	90.0	113.7	3887.8	8640.0
37065247270000	-78.81077	40.9619	35.5	1058.0	25.0	57.5	78.2	116.0	147.3	3163.8	6110.8
37065247330000	-78.81855	40.9300	26.8	1010.1	17.6	39.8	56.7	82.2	103.6	4349.7	9559.2
37065247340000	-78.80813	40.9823	29.2	1025.4	19.7	44.9	63.0	92.2	116.5	3798.3	8323.1
37065247350000	-78.80499	40.9812	24.0	1053.4	14.3	32.7	47.9	68.9	86.4	5442.9	11543.8
37065247370000	-78.81036	40.9878	27.9	1013.2	18.7	42.6	60.1	87.7	110.7	4009.5	8906.6
37065247380000	-78.80603	40.9868	28.5	1011.9	19.2	43.8	61.6	90.0	113.6	3901.4	8598.0
37065247460000	-78.82461	40.9620	24.1	975.4	15.5	35.0	50.9	73.2	92.0	5035.5	10892.2
37065247470000	-78.80516	40.9842	32.0	1028.1	22.4	51.1	70.5	103.9	131.6	3433.3	6999.8
37065247520000	-78.90715	41.0065	31.2	1136.6	19.6	46.9	66.7	93.5	118.6	3622.0	8429.7
37065247610000	-78.81980	40.9599	24.9	972.3	16.3	36.9	53.2	76.8	96.6	4736.5	10367.0
37065247640000	-78.82438	40.9710	31.9	1061.0	21.6	49.9	68.9	101.4	128.5	3422.8	7354.6
37065247670000	-78.81552	40.9561	29.9	992.1	21.0	47.7	66.4	97.3	123.1	3568.9	7698.5
37065247690000	-78.82366	40.9738	36.6	1040.6	26.6	61.1	82.7	122.7	156.0	2981.0	5714.8
37065247720000	-78.80550	40.9629	30.1	1047.6	20.1	46.0	64.2	94.2	119.0	3707.2	8079.5
37065247760000	-78.80856	40.9707	29.8	1066.8	19.5	44.7	62.6	91.8	116.0	3816.9	8390.3
37065247770000	-78.80483	40.9687	30.6	1050.7	20.6	47.2	65.6	96.4	121.9	3608.4	7814.9
37065247780000	-78.80803	40.9617	30.9	1045.5	20.9	47.9	66.5	97.8	123.7	3558.2	7670.5
37065248020000	-78.80974	40.9269	24.7	936.7	16.7	37.4	53.7	77.6	97.7	4675.2	10182.9
37065248120000	-78.81446	40.9683	32.3	1049.1	22.2	51.0	70.3	103.7	131.3	3382.6	7063.1

37065248130000	-78.81602	40.9645	28.0	1018.3	18.7	42.6	60.1	87.7	110.6	4011.0	8912.9
37065248260000	-78.81778	40.9274	27.7	1038.2	18.0	41.0	58.1	84.5	106.5	4203.1	9260.0
37065248500000	-78.83279	40.9537	28.1	1029.0	18.6	42.5	60.0	87.5	110.5	4018.4	8923.7
37065248510000	-78.83469	40.9545	27.9	1010.1	18.7	42.6	60.1	87.6	110.6	4012.4	8901.0
37065248520000	-78.83592	40.9515	28.9	1047.6	19.0	43.6	61.3	89.7	113.3	3913.3	8649.7
37065248550000	-78.89020	40.9447	30.3	1107.0	19.2	45.1	63.0	91.7	116.0	3769.2	8531.6
37065248700000	-78.82032	40.9561	28.1	1027.2	18.6	42.5	60.0	87.6	110.5	4017.4	8921.7
37065248790000	-78.80567	40.9287	27.0	987.9	18.3	41.0	58.2	84.5	106.6	4201.3	9219.9
37065248860000	-78.82522	40.9279	26.9	980.2	18.3	41.0	58.2	84.5	106.6	4200.9	9214.9
37065248880000	-78.82727	40.9519	26.8	1055.8	16.9	38.8	55.4	80.5	101.3	4466.2	9884.6
37065248920000	-78.83142	40.9530	28.9	1046.1	19.0	43.7	61.4	89.8	113.3	3912.1	8647.8
37065249210000	-78.80794	40.9759	28.0	1017.4	18.7	42.5	59.9	87.5	110.4	4021.3	8906.7
37065249220000	-79.20382	40.9167	27.3	1005.8	18.2	44.3	63.9	87.9	110.0	4017.8	9439.6
37065249240000	-78.82613	40.9542	28.1	1028.7	18.6	42.5	60.0	87.5	110.4	4018.9	8923.0
37065249250000	-78.88667	40.9426	30.4	1117.4	19.2	45.0	62.8	91.7	116.0	3779.8	8531.1
37065249280000	-79.20053	40.9151	28.5	1037.2	18.8	46.1	66.2	91.4	114.6	3789.3	9061.3
37065249300000	-78.82485	40.9564	29.2	1065.6	18.9	43.6	61.3	89.7	113.2	3912.6	8678.3
37065249310000	-78.81544	40.9606	27.8	1001.9	18.7	42.6	60.2	87.7	110.7	4009.0	8891.6
37065249320000	-78.81191	40.9631	27.9	1010.4	18.7	42.5	60.1	87.6	110.6	4013.9	8900.7
37065249330000	-78.81472	40.9266	28.2	954.9	20.2	45.0	63.2	92.1	116.5	3791.9	8199.6
37065249630000	-78.81559	40.9752	29.0	1054.6	19.0	43.7	61.4	89.8	113.4	3903.5	8664.4
37065249640000	-78.82181	40.9580	27.8	1001.3	18.7	42.6	60.2	87.7	110.7	4008.7	8890.8
37065249670000	-78.83241	40.9515	29.1	1019.3	19.7	45.0	63.0	92.3	116.6	3795.3	8313.3
37065249760000	-78.82103	40.9657	28.1	982.1	19.4	44.0	61.9	90.4	114.1	3873.6	8561.3
37065249980000	-78.80472	40.9828	28.1	1028.4	18.6	42.4	59.9	87.4	110.3	4023.7	8920.3
37067200010000	-77.28083	40.6864	74.9	2659.7	24.8	63.6	82.3	123.6	158.2	2850.6	5640.6
37069200100000	-75.59862	41.3052	63.9	1647.1	33.3	89.5	109.1	169.0	218.0	2195.4	3934.0
37069200110000	-75.56086	41.6125	20.4	910.4	12.5	41.3	52.0	81.6	103.9	4392.5	9940.8
37069202170000	-75.78063	41.4310	32.3	1356.7	17.2	48.8	61.6	93.4	119.8	3818.1	8173.4
37073200070000	-80.17464	41.0505	65.6	1498.1	37.8	97.9	122.9	176.5	223.3	1881.8	3843.6
37073200080000	-80.18351	40.9758	53.2	1480.1	29.8	77.6	99.1	141.5	178.8	2370.3	5592.3
37073200220000	-80.28192	41.0920	43.6	1280.2	27.0	71.6	92.0	130.8	165.2	2571.9	6385.2
37073200360000	-80.45160	40.9605	64.1	1890.1	29.1	73.8	95.0	135.6	171.5	2470.8	5741.9
37073200560000	-80.15570	41.0362	65.4	2040.3	27.7	67.7	91.3	125.6	158.6	2443.6	6244.7
37073201540000	-80.27120	41.1214	62.2	1929.1	27.6	69.9	90.4	128.9	162.9	2613.3	6145.5

37073201570000	-80.27980	41.1185	61.3	1888.2	27.7	70.2	90.8	129.5	163.6	2601.3	6135.4
37073201590000	-80.27980	41.1233	61.4	1900.4	27.6	69.9	90.4	128.9	162.9	2613.3	6165.0
37073201610000	-80.27990	41.1136	61.3	1889.8	27.7	70.2	90.7	129.4	163.5	2602.9	6140.6
37073201620000	-80.24542	41.1134	60.4	1911.7	26.9	63.5	84.4	117.3	147.9	2807.4	6984.6
37073201630000	-80.26570	41.1171	61.3	1894.0	27.6	70.1	90.6	129.3	163.3	2606.6	6141.4
37073201640000	-80.27250	41.1172	62.1	1919.9	27.7	70.1	90.7	129.3	163.5	2604.4	6122.8
37073201670000	-80.26130	41.1271	61.5	1908.7	27.5	69.7	90.1	128.6	162.5	2621.3	6182.1
37073201690000	-80.26740	41.1118	61.4	1901.7	27.6	69.9	90.3	128.8	162.8	2614.7	6171.1
37073201700000	-80.29440	41.1131	61.5	1908.4	27.5	69.7	90.2	128.6	162.5	2621.1	6183.1
37073201710000	-80.25940	41.1218	61.5	1909.0	27.5	69.7	90.1	128.5	162.4	2621.9	6188.8
37073201720000	-80.30240	41.1245	61.0	1857.5	28.0	71.1	91.7	130.9	165.4	2570.9	6059.8
37073201730000	-80.27410	41.1122	61.4	1896.5	27.6	70.0	90.5	129.0	163.1	2609.8	6162.4
37073201740000	-80.28610	41.1234	61.2	1879.7	27.8	70.5	91.1	129.9	164.1	2592.6	6108.4
37073201750000	-80.30320	41.1164	61.4	1901.7	27.6	69.8	90.3	128.7	162.6	2615.9	6194.2
37073201760000	-80.28810	41.1132	61.0	1921.8	27.1	68.6	88.9	126.7	160.1	2663.2	6308.3
37073201770000	-80.28340	41.1100	57.4	1887.6	25.6	65.0	84.6	120.3	151.9	2814.7	6799.8
37073201780000	-80.29650	41.1084	61.1	1869.6	27.9	70.7	91.4	130.3	164.7	2582.9	6089.0
37073201790000	-80.28560	41.1053	61.3	1891.9	27.7	70.1	90.6	129.3	163.3	2605.2	6148.5
37073201800000	-80.31420	41.1266	55.0	1813.0	25.4	64.5	84.0	119.3	150.6	2838.1	6924.9
37073201810000	-80.27060	41.1074	54.6	1885.2	24.2	61.3	80.3	113.9	143.7	2987.9	7311.2
37073201830000	-80.29700	41.1026	58.3	1866.6	26.4	67.0	87.0	123.8	156.4	2728.7	6554.1
37073201870000	-80.36543	41.1198	60.9	1851.7	28.1	66.4	87.7	122.2	154.1	2677.7	6656.6
37081200030000	-77.18672	41.4220	71.2	2202.8	28.3	72.6	95.3	142.1	181.8	2666.8	4796.7
37081200040000	-77.56630	41.4710	75.0	2407.0	27.4	61.5	89.3	120.8	154.3	2636.6	5755.3
37081200060000	-76.70344	41.3366	21.0	824.2	14.5	43.4	61.5	88.3	111.8	3975.4	9066.5
37081200070000	-77.20569	41.2893	69.4	1923.9	31.4	93.7	111.9	187.4	238.8	2413.6	4938.4
37081200190000	-76.64756	41.2933	67.1	2388.4	24.3	60.0	82.0	119.0	151.6	3007.4	5924.4
37081200200000	-77.21306	41.2862	67.6	1969.0	29.8	85.4	104.5	168.8	215.5	2275.1	3874.3
37081200210000	-77.20251	41.2938	54.6	1880.6	24.2	74.7	89.7	152.8	193.5	3758.3	4400.3
37081200250000	-77.27946	41.2633	66.9	2214.1	26.1	65.3	87.9	127.6	163.2	3078.1	5439.6
37081200260000	-77.18031	41.2993	70.5	2109.2	29.2	78.6	99.8	154.4	197.4	2590.4	4349.4
37081200280000	-77.58877	41.5000	106.8	3917.6	25.0	60.5	84.6	116.6	149.5	2734.4	6020.1
37081200290000	-77.52223	41.3806	103.4	4112.7	23.0	55.5	79.5	108.1	138.3	3033.0	6587.7
37081200320000	-77.38610	41.2799	46.8	1885.8	20.1	62.0	76.1	129.8	163.5	2553.6	5395.7
37081200370000	-76.79677	41.3613	59.5	1935.5	26.1	80.5	96.9	170.1	214.1	2486.1	3803.9

37081200380000	-76.89686	41.3806	61.2	1935.2	27.0	83.3	99.4	174.2	219.7	2353.6	3612.2
37081200390000	-76.80004	41.3436	59.5	1935.5	26.1	80.5	96.8	170.1	214.1	2490.0	3803.0
37081200400000	-76.73958	41.3415	58.5	1829.7	27.1	83.4	101.0	173.9	219.5	2401.3	3703.5
37081200410000	-77.27831	41.3454	47.8	1990.3	19.5	59.0	72.9	123.2	155.3	3247.5	5748.6
37081200420000	-77.23493	41.3763	41.3	1826.4	17.7	54.5	68.3	114.4	144.0	2865.6	6310.2
37081200430000	-77.40515	41.3270	49.4	1987.3	20.3	61.2	75.5	126.9	160.2	2550.5	5536.9
37081900000000	-76.88944	41.4292	93.7	2236.3	37.9	95.7	124.4	184.6	237.0	2123.7	3500.6
37081900030000	-77.28799	41.5402	66.4	2023.3	28.4	82.3	100.4	165.1	210.2	2396.2	4001.6
37083225290000	-78.61509	41.8821	99.3	3121.8	28.9	59.9	89.4	125.6	155.0	2673.6	5984.2
37083231730000	-78.84301	41.9445	48.4	1360.0	29.0	58.8	87.5	120.5	149.1	2686.7	6344.7
37083232370000	-78.50992	41.9174	53.6	1418.8	31.4	63.7	101.0	130.9	161.9	2463.3	5568.9
37083275200000	-78.91703	41.9870	51.7	1543.5	27.6	59.0	86.8	119.2	147.7	2720.2	6727.9
37083293760000	-78.31162	41.6821	72.9	2002.5	31.9	66.8	101.9	145.8	180.0	2352.0	4669.7
37083294410000	-78.87084	41.9739	45.2	1142.1	31.7	65.9	95.9	132.4	164.2	2414.7	5690.2
37083295300000	-78.64641	41.6823	66.7	2058.6	28.0	62.3	93.1	128.3	158.7	2552.0	6017.6
37083296390000	-78.78850	41.7807	55.1	1660.9	27.8	58.2	91.1	120.4	148.8	2710.6	6405.9
37083305980000	-78.87010	41.9649	42.0	1219.5	27.1	55.1	82.0	112.5	139.2	2911.4	7043.6
37083312520000	-78.92655	41.6699	61.9	2077.8	25.5	56.6	84.4	118.2	145.9	2794.6	6741.3
37083313920000	-78.54026	41.6696	60.1	1877.6	27.2	57.7	88.4	123.0	151.4	2746.3	6191.1
37083317440000	-78.61840	41.8720	95.7	3194.3	27.1	56.3	83.8	118.6	146.2	2849.3	6508.4
37083331100000	-78.41768	41.7942	49.4	1492.0	27.1	55.0	86.0	115.5	142.4	2863.6	6663.3
37083331370000	-78.62166	41.7969	58.5	1720.3	28.8	60.0	92.4	126.0	155.4	2628.2	5945.3
37083377520000	-78.94409	41.6436	15.2	631.5	9.8	29.5	45.7	65.0	79.4	5802.3	12102.1
37083398850000	-78.61707	41.7996	56.4	1733.7	27.4	60.5	88.3	122.0	151.2	2675.9	6612.1
37083406670000	-78.58480	41.8288	45.7	1657.5	22.1	45.6	72.4	97.2	119.5	3301.8	8381.8
37083417710000	-78.55433	41.8375	50.7	1607.2	25.9	53.3	83.8	111.7	137.7	2946.1	7032.1
37083452980000	-78.34518	41.7325	23.8	800.1	18.5	52.7	75.2	115.0	141.0	2947.9	7620.0
37083454670000	-78.29933	41.7919	24.6	700.7	22.2	64.0	92.6	128.8	159.6	2567.7	7084.1
37083455170000	-78.29680	41.8187	23.8	697.4	21.2	46.9	63.7	87.2	109.7	4763.9	10607.1
37083455180000	-78.32941	41.7472	27.0	825.1	21.8	61.8	86.7	136.1	167.2	2485.3	5533.5
37083457800000	-78.33143	41.7497	36.9	976.6	28.5	82.3	111.3	181.3	223.1	2162.8	3602.9
37083463750000	-78.31860	41.7476	19.7	674.5	15.9	48.3	69.3	107.6	131.6	3200.7	8201.8
37083463760000	-78.32007	41.7500	23.5	665.7	21.8	65.9	91.9	144.7	177.9	2316.3	4737.8
37083470490000	-78.71081	41.7407	13.6	602.9	7.7	23.3	37.7	53.1	64.3	6857.8	13157.7
37083474290000	-78.58082	41.6637	14.7	669.6	8.5	25.7	40.5	59.7	71.9	6348.0	12647.7

37083474300000	-78.72801	41.6951	12.4	627.0	5.4	16.2	28.5	38.9	46.4	8174.2	14446.1
37083475970000	-78.68621	41.8410	25.9	641.9	26.4	78.2	108.7	161.8	200.1	1833.7	4071.8
37083475990000	-78.68446	41.8378	25.9	660.8	25.6	75.2	104.6	156.2	193.1	2005.0	4359.0
37083476000000	-78.68355	41.8362	23.6	670.6	21.7	63.4	89.4	132.7	163.8	2425.0	6347.7
37083476010000	-78.68254	41.8347	23.9	695.6	21.5	61.7	87.3	129.3	159.6	2499.8	6627.3
37083476040000	-78.68859	41.8384	24.5	641.3	24.2	71.8	100.6	148.9	184.0	2125.5	5031.3
37083477730000	-78.68969	41.8400	21.5	609.3	20.6	62.3	89.1	129.8	160.3	2457.1	6673.5
37083477750000	-78.68281	41.8421	19.5	659.6	16.0	46.7	68.0	99.0	121.9	3132.2	9226.0
37083478840000	-78.70153	41.8393	15.5	653.8	10.0	29.4	45.7	64.5	78.8	5844.2	12144.1
37083478850000	-78.70015	41.8380	15.7	624.8	10.7	31.9	49.2	69.3	84.8	5440.7	11739.9
37083483770000	-78.77199	41.7580	17.1	611.1	13.3	40.2	59.4	86.9	106.5	4012.2	10222.4
37083483790000	-78.77181	41.7545	19.3	609.3	16.9	51.2	73.6	109.1	134.2	3017.6	8305.6
37083483810000	-78.76741	41.7557	20.0	609.0	18.0	54.5	77.9	115.6	142.3	2823.2	7762.9
37083483850000	-78.76906	41.7541	19.8	602.6	17.9	54.0	77.2	114.7	141.1	2853.3	7827.9
37083483860000	-78.76997	41.7564	18.2	612.0	15.1	45.7	66.5	98.1	120.4	3226.7	9258.9
37083484760000	-78.65765	41.8156	21.5	678.8	18.4	53.4	76.5	112.8	139.0	2884.0	8028.3
37083485000000	-78.82330	41.8027	15.3	638.9	9.9	29.5	45.6	64.7	79.0	5829.1	12129.0
37083485010000	-78.82532	41.8041	15.5	648.0	10.0	29.5	45.7	64.8	79.1	5823.7	12123.5
37083485130000	-78.83480	41.8021	12.7	612.0	6.0	18.3	31.3	42.2	51.0	7739.8	14031.9
37083486510000	-78.66187	41.8184	14.1	670.6	7.7	22.4	36.5	50.8	61.6	7025.4	13325.3
37083486530000	-78.66187	41.8169	17.8	807.7	10.9	31.3	47.8	68.8	84.0	5482.1	11781.4
37083486540000	-78.66388	41.8169	16.9	670.6	11.8	34.5	52.1	74.8	91.6	4968.0	11267.8
37083486610000	-78.62175	41.8038	24.5	807.1	19.2	54.9	78.0	116.4	143.4	2806.1	7695.8
37083486630000	-78.62555	41.8036	15.2	743.7	8.4	23.8	38.3	53.6	65.1	6786.7	13086.4
37083486640000	-78.62757	41.8036	18.1	673.0	13.5	39.4	58.4	84.9	104.1	4134.9	10402.4
37083487790000	-78.73100	41.8582	18.6	671.2	14.3	41.5	61.3	88.5	108.7	3874.2	10120.8
37083488350000	-78.65435	41.8181	18.6	672.1	14.3	41.5	61.3	88.8	109.1	3839.5	10087.3
37083488400000	-78.66960	41.8469	18.8	687.6	14.3	41.2	60.8	88.1	108.2	3910.5	10147.2
37083488440000	-78.67153	41.8442	20.7	701.0	16.7	47.7	69.3	101.3	124.6	3128.2	9005.5
37083488460000	-78.66749	41.8443	19.3	681.8	15.1	43.7	64.0	93.0	114.4	3462.6	9726.1
37083488480000	-78.67034	41.8429	19.3	681.5	15.1	43.7	64.0	93.1	114.5	3454.0	9716.7
37083488500000	-78.67327	41.8416	19.4	689.2	15.1	43.5	63.8	92.8	114.0	3478.1	9741.7
37083488810000	-78.71310	41.8425	13.8	688.8	7.0	20.3	33.8	46.3	56.1	7391.8	13691.0
37083489280000	-78.66271	41.8482	16.0	685.2	10.2	29.6	45.8	64.9	79.3	5813.6	12113.4
37083489290000	-78.65565	41.8487	16.0	686.4	10.3	29.5	45.8	64.8	79.2	5818.0	12117.9

37083489300000	-78.66638	41.8459	20.3	672.1	16.8	48.8	70.6	103.3	127.1	3169.2	8857.7
37083489320000	-78.66216	41.8467	15.9	674.8	10.2	29.5	45.8	64.8	79.2	5820.6	12120.5
37083489330000	-78.65720	41.8462	18.1	637.0	14.2	42.3	62.6	90.1	110.7	3715.6	9991.7
37083489340000	-78.65519	41.8472	15.8	670.3	10.1	29.5	45.7	64.8	79.1	5823.5	12123.3
37083489350000	-78.66601	41.8433	19.9	650.7	16.8	49.6	71.6	104.9	129.1	3107.3	8728.9
37083489360000	-78.66363	41.8445	18.3	650.7	14.3	42.0	61.9	89.6	110.1	3761.7	10025.1
37083489370000	-78.66161	41.8451	15.4	642.5	9.9	29.4	45.7	64.4	78.7	5854.6	12154.5
37083489380000	-78.65931	41.8458	18.8	646.2	15.1	44.6	65.5	94.7	116.5	3324.5	9597.7
37083489390000	-78.65463	41.8451	14.8	607.8	9.6	29.1	45.7	63.7	78.0	5903.4	12203.3
37083489400000	-78.66509	41.8419	18.1	641.6	14.2	42.3	62.2	90.1	110.8	3706.1	9979.4
37083489420000	-78.66032	41.8419	16.6	686.1	11.1	31.9	48.9	69.6	85.2	5411.7	11710.9
37083489430000	-78.65757	41.8425	15.9	675.7	10.2	29.5	45.8	64.9	79.2	5814.8	12114.7
37083489440000	-78.65528	41.8422	15.8	670.3	10.1	29.5	45.7	64.8	79.2	5819.5	12119.4
37083489450000	-78.66087	41.8435	19.8	638.6	16.8	50.0	72.5	105.5	130.0	3079.9	8684.7
37083489460000	-78.65867	41.8438	19.8	640.1	16.8	50.0	72.4	105.3	129.8	3083.7	8704.4
37083489470000	-78.65785	41.8479	15.9	674.8	10.2	29.5	45.7	64.7	79.1	5828.9	12128.8
37083489880000	-78.80449	41.7548	14.7	600.5	9.5	28.8	44.8	63.7	77.7	5918.6	12218.5
37083490720000	-78.66601	41.8488	15.9	677.6	10.2	29.5	45.8	64.8	79.2	5820.8	12120.6
37083490750000	-78.67136	41.8479	17.9	627.9	14.2	42.5	63.0	90.5	111.2	3677.0	9960.5
37083490760000	-78.67371	41.8467	15.2	629.4	9.8	29.3	45.7	64.1	78.4	5870.9	12170.7
37083490770000	-78.67151	41.8469	15.4	643.1	9.9	29.4	45.7	64.3	78.7	5855.1	12155.0
37083490780000	-78.67327	41.8454	17.7	683.4	12.7	36.6	54.9	79.0	96.9	4611.9	10912.1
37083490790000	-78.67364	41.8440	18.3	691.9	13.5	38.9	57.8	83.6	102.5	4225.5	10524.3
37083491960000	-78.63187	41.8359	17.5	708.4	12.0	34.0	51.6	73.7	90.3	5065.1	11364.9
37083491970000	-78.63508	41.8485	15.8	672.1	10.1	29.4	45.8	64.5	78.8	5846.6	12146.5
37083491980000	-78.55038	41.8328	16.9	669.0	11.8	34.3	51.9	74.3	91.0	5014.7	11314.5
37083492280000	-78.55413	41.8257	21.5	792.2	15.8	45.1	65.5	96.3	118.3	3220.5	9443.3
37083492290000	-78.60021	41.8506	19.9	723.9	15.1	42.8	63.0	91.3	112.2	3600.1	9876.8
37083492590000	-78.30186	41.7620	20.9	830.9	14.4	40.8	59.9	92.2	112.3	3598.9	9626.5
37083492610000	-78.31472	41.7561	20.4	830.6	13.7	38.9	57.4	88.1	107.3	3916.3	10002.0
37083492700000	-78.66069	41.8476	18.6	670.6	14.3	41.6	61.3	88.9	109.2	3831.8	10080.8
37083900480000	-78.72261	41.7677	99.5	2421.3	37.4	82.7	120.3	168.7	209.1	1902.0	3833.4
37085200300000	-80.15055	41.3476	55.7	1716.0	27.2	59.1	86.8	120.3	149.0	2722.1	6602.4
37085200310000	-80.18551	41.3441	48.1	1733.7	22.6	49.2	73.6	101.3	125.3	3316.1	8225.0
37085200320000	-80.51508	41.2011	37.2	1538.9	18.3	39.2	60.3	81.3	100.6	4488.2	10209.9

37085200350000	-80.50454	41.1893	57.6	1531.6	31.8	67.8	98.4	135.7	168.2	2341.3	5598.0
37085200370000	-80.51725	41.1779	47.4	1616.4	23.8	51.5	76.5	104.9	129.9	3163.6	7931.8
37085200380000	-80.04330	41.2661	52.3	1763.3	24.6	52.7	82.4	109.2	134.9	2956.8	7398.2
37085200390000	-80.07278	41.2987	54.8	1845.6	24.8	54.3	83.8	112.0	138.5	2910.3	7225.2
37085200400000	-80.49763	41.1714	50.3	1621.5	25.5	54.9	81.2	111.6	138.2	2947.4	7326.6
37085200630000	-80.18846	41.1813	59.5	1878.2	26.9	59.3	86.9	121.6	150.5	2723.1	6486.2
37085201130000	-80.02073	41.2648	53.3	1649.0	26.9	56.3	88.7	116.5	144.0	2792.5	6714.5
37085201150000	-80.03819	41.2704	53.0	1669.7	26.4	55.6	82.9	114.8	141.9	2872.9	6881.0
37085201160000	-80.23843	41.4618	80.7	2790.8	25.7	53.8	82.6	109.7	135.8	2859.2	7459.9
37085201250000	-80.02364	41.2694	57.2	1813.6	26.6	57.6	88.7	118.9	147.0	2739.5	6631.5
37085201260000	-80.03885	41.2756	53.9	1875.4	24.0	52.7	81.3	109.1	134.8	2949.3	7491.1
37085201320000	-80.49131	41.1954	51.3	1564.8	27.1	58.1	85.5	117.4	145.5	2770.5	6890.5
37085201470000	-80.51055	41.2532	46.6	1537.7	24.5	52.8	78.2	106.7	132.3	3082.0	7822.4
37085201790000	-80.46923	41.1727	44.6	1660.9	21.4	46.6	70.0	95.8	118.5	3523.0	8774.0
37085201800000	-80.47577	41.1754	50.3	1675.5	24.6	53.9	79.6	109.6	135.7	3016.4	7542.0
37085201830000	-80.48431	41.1786	46.6	1645.0	22.9	49.7	74.2	101.6	125.8	3286.5	8228.3
37085201850000	-80.51110	41.2767	44.6	1572.8	22.7	49.4	73.6	100.2	124.2	3318.0	8424.4
37085201860000	-80.03702	41.2807	52.7	1343.3	32.5	66.4	97.6	135.8	168.1	2351.5	5277.5
37085201930000	-80.36720	41.3493	47.2	1589.5	24.0	52.0	77.2	105.6	130.9	3129.0	7897.9
37085202000000	-80.11107	41.4820	54.3	1683.1	26.9	59.1	86.5	119.3	147.9	2738.8	6784.9
37085202220000	-80.05809	41.4753	49.8	1684.6	24.2	53.1	78.6	108.1	133.9	3062.7	7677.1
37085202230000	-80.07193	41.4346	54.2	1727.6	26.1	57.5	84.4	116.7	144.6	2817.2	6957.5
37085202340000	-80.23314	41.4452	53.4	1655.1	26.8	58.9	86.2	118.8	147.2	2746.6	6849.9
37085202410000	-80.51110	41.2852	50.3	1568.2	26.3	57.4	84.2	115.2	142.9	2824.5	7154.2
37085202430000	-80.01039	41.4395	52.6	1578.9	27.6	58.4	86.3	119.0	147.3	2735.0	6641.7
37085202470000	-80.23789	41.4679	51.8	1607.7	26.6	58.3	85.4	117.1	145.3	2779.7	6991.8
37085202510000	-80.08144	41.4743	50.4	1689.2	24.5	53.8	79.5	109.4	135.5	3022.4	7566.6
37085202580000	-80.17030	41.2039	52.0	1906.8	22.6	49.8	74.3	103.3	127.6	3276.2	8024.9
37085202640000	-80.26788	41.4822	51.0	1586.5	26.5	57.9	84.9	116.3	144.2	2798.5	7071.3
37085202650000	-80.23551	41.4628	51.8	1607.7	26.6	58.2	85.3	117.1	145.2	2782.2	6989.3
37085202660000	-80.22274	41.4550	52.6	1629.2	26.8	58.6	85.8	118.0	146.3	2761.2	6915.8
37085202730000	-80.25091	41.4591	52.6	1626.9	26.8	58.7	85.9	118.1	146.4	2758.4	6913.0
37085202740000	-80.20314	41.4414	52.6	1628.2	26.8	58.4	85.7	117.8	146.0	2767.2	6907.4
37085202750000	-80.25839	41.4808	50.7	1559.1	26.8	58.2	85.3	116.8	144.9	2779.0	7023.0
37085202760000	-80.25420	41.4695	51.0	1585.0	26.5	57.8	84.8	116.2	144.1	2800.9	7065.3

37085202810000	-80.12938	41.4657	52.3	1816.0	23.8	52.9	78.1	107.6	133.3	3084.1	7776.6
37085202840000	-80.21089	41.4284	54.1	1665.7	27.1	59.3	86.8	119.7	148.4	2725.3	6755.2
37085202850000	-80.20058	41.4265	53.5	1662.7	26.8	58.5	85.8	118.3	146.6	2762.4	6852.4
37085202860000	-80.19146	41.4116	52.7	1636.8	26.7	57.9	85.1	117.2	145.3	2786.2	6909.6
37085202870000	-80.25511	41.4545	52.5	1623.7	26.8	58.7	85.9	118.1	146.4	2757.6	6905.8
37085202900000	-80.14416	41.4735	48.3	1640.4	23.9	52.3	77.5	106.2	131.6	3117.0	7852.2
37085202910000	-80.21599	41.4469	52.6	1634.0	26.7	58.5	85.6	117.8	146.0	2768.6	6920.4
37085202920000	-80.30662	41.4627	50.9	1574.3	26.6	58.0	85.0	116.5	144.5	2791.2	7048.5
37085202930000	-80.27810	41.4756	51.0	1582.8	26.5	57.9	84.8	116.3	144.2	2799.0	7061.9
37085202940000	-80.11361	41.4533	50.3	1680.4	24.6	53.8	79.5	109.4	135.5	3021.5	7548.8
37085202960000	-80.07268	41.4684	51.5	1630.7	26.1	56.7	83.4	114.7	142.1	2855.4	7125.1
37085203070000	-80.20733	41.4312	53.4	1650.5	26.9	58.7	86.1	118.6	147.0	2751.6	6833.0
37085203110000	-80.06568	41.4717	53.4	1650.8	26.9	58.7	86.1	118.6	147.0	2752.4	6832.9
37085203120000	-80.12018	41.4649	50.1	1657.5	24.8	54.1	80.0	109.9	136.2	3001.8	7513.9
37085203150000	-80.11051	41.4647	49.7	1671.8	24.3	53.3	78.8	108.3	134.2	3053.8	7656.5
37085203180000	-80.09738	41.4697	50.1	1642.0	25.0	54.6	80.6	110.7	137.2	2974.1	7455.7
37085203220000	-80.04124	41.4854	53.3	1649.0	26.9	58.7	86.1	118.6	147.0	2752.0	6828.7
37085203230000	-80.05115	41.4719	53.3	1695.6	26.1	57.3	84.1	116.1	143.9	2826.8	7013.9
37085203270000	-80.48963	41.2977	47.3	1563.9	24.5	53.4	78.9	107.7	133.6	3048.5	7770.4
37085203280000	-80.08734	41.4339	54.1	1724.6	26.2	57.5	84.4	116.7	144.6	2817.1	6950.1
37085203360000	-80.11617	41.4742	53.3	1649.0	26.9	57.7	85.1	117.6	145.6	2783.6	6789.1
37085203380000	-80.03703	41.4709	54.3	1684.6	26.9	58.8	86.2	119.0	147.5	2747.3	6779.5
37085203430000	-80.02263	41.4860	51.8	1604.5	26.7	57.8	84.9	116.7	144.6	2794.2	6969.9
37085203600000	-80.00146	41.4567	49.7	1621.2	25.1	54.3	80.3	110.3	136.6	2985.8	7447.6
37085203610000	-80.02627	41.4716	54.1	1667.6	27.0	59.0	86.5	119.4	148.0	2734.1	6750.1
37085203620000	-80.13905	41.4601	50.6	1656.6	25.1	55.0	81.1	111.5	138.1	2953.6	7399.2
37085203740000	-80.13554	41.2309	61.5	1914.1	27.4	60.7	88.7	124.3	153.8	2661.1	6307.9
37085203780000	-80.15028	41.2583	57.9	1559.1	31.4	64.9	95.8	132.8	164.4	2405.0	5534.1
37085203800000	-80.33424	41.4211	40.1	1553.6	20.0	43.4	65.7	88.9	110.2	4013.6	9484.2
37085203810000	-80.37755	41.4394	41.8	1460.3	22.5	48.2	72.1	97.7	121.1	3464.5	8651.5
37085203820000	-80.09720	41.4746	50.9	1679.1	24.9	54.7	80.7	111.0	137.5	2971.2	7435.3
37085203890000	-80.27906	41.1684	59.1	1846.8	27.1	59.8	87.6	122.3	151.4	2699.0	6462.4
37085203910000	-80.29185	41.1616	56.7	1878.2	25.4	56.1	82.6	115.3	142.6	2888.3	7001.6
37085203920000	-80.27723	41.1447	57.5	1900.1	25.5	56.4	83.0	115.9	143.4	2873.5	6945.6
37085203930000	-80.04477	41.4812	51.6	1698.4	25.1	55.1	81.2	112.0	138.7	2946.1	7350.9

37085203940000	-80.04367	41.4676	51.1	1702.9	24.7	54.3	80.1	110.5	136.8	2994.1	7470.0
37085204010000	-80.07121	41.4564	51.6	1691.6	25.2	55.1	81.3	112.0	138.7	2944.5	7337.3
37085204030000	-80.08589	41.4512	51.5	1687.7	25.2	55.2	81.3	112.1	138.8	2941.5	7330.8
37085204050000	-80.00620	41.4627	49.0	1609.6	24.9	53.8	79.7	109.3	135.4	3014.9	7552.9
37085204080000	-80.51801	41.3005	49.3	1530.7	26.3	57.2	83.9	114.6	142.2	2833.8	7209.9
37085204100000	-80.00967	41.4798	51.8	1612.1	26.6	57.4	84.5	116.2	143.9	2811.8	6971.9
37085204150000	-80.12220	41.4791	47.8	1645.6	23.6	51.4	76.3	104.7	129.6	3172.2	7982.0
37085204200000	-80.46471	41.3972	49.2	1519.7	26.4	57.5	84.3	115.0	142.7	2820.8	7195.2
37085204230000	-80.02900	41.4515	54.0	1662.7	27.1	59.0	86.6	119.4	148.0	2732.9	6738.9
37085204390000	-80.03201	41.2757	58.1	1783.1	27.5	59.3	91.7	121.9	150.9	2667.0	6389.9
37085204450000	-80.35267	41.4579	47.2	1447.8	26.4	56.6	83.2	113.3	140.6	2860.8	7299.3
37085204470000	-80.01332	41.4827	52.0	1627.6	26.4	57.5	84.5	116.2	144.0	2811.6	7009.9
37085204480000	-80.39069	41.4575	47.7	1488.9	26.0	56.2	82.6	112.5	139.6	2887.8	7380.0
37085204520000	-80.09355	41.4779	50.3	1678.2	24.6	53.9	79.7	109.6	135.8	3013.7	7549.4
37085204580000	-80.01237	41.2664	60.2	1819.1	28.2	61.1	93.6	125.6	155.4	2592.8	6137.6
37085204600000	-80.33625	41.4555	45.3	1468.8	24.7	53.0	78.4	106.6	132.3	3071.8	7843.4
37085204610000	-80.01843	41.4779	49.2	1576.7	25.5	55.0	81.3	111.4	138.0	2944.2	7379.3
37085204640000	-80.02956	41.4822	51.4	1568.5	27.0	58.2	85.5	117.4	145.5	2769.7	6903.9
37085204660000	-80.33443	41.4605	47.5	1466.1	26.2	56.3	82.8	112.8	140.0	2877.5	7330.3
37085204670000	-80.35048	41.4524	44.6	1455.4	24.4	52.4	77.6	105.4	130.7	3112.0	7954.0
37085204700000	-80.05863	41.4669	50.3	1624.6	25.4	55.2	81.5	111.9	138.7	2934.8	7342.9
37085204720000	-80.05918	41.4805	50.0	1649.9	24.9	54.2	80.1	110.1	136.4	2994.6	7502.6
37085204750000	-80.34847	41.4638	48.3	1445.1	27.2	58.3	85.5	116.4	144.5	2771.0	7051.1
37085204770000	-80.33716	41.4498	49.8	1472.8	27.7	59.4	87.0	118.7	147.3	2715.0	6863.5
37085204780000	-80.00894	41.4760	49.0	1601.7	25.0	53.9	79.8	109.4	135.5	3010.2	7539.3
37085204790000	-80.00365	41.4108	56.9	1781.9	26.9	59.2	86.7	120.5	149.2	2730.9	6624.9
37085204890000	-80.46524	41.2616	53.3	1642.6	27.0	59.1	86.5	119.1	147.6	2736.3	6829.2
37085204900000	-80.46943	41.2656	51.7	1548.7	27.6	59.5	87.2	119.5	148.2	2707.5	6767.1
37085204990000	-80.44558	41.2646	51.8	1604.8	26.7	57.9	85.1	116.8	144.8	2790.0	6974.7
37085205030000	-80.11032	41.4489	54.3	1690.4	26.8	58.7	86.1	118.9	147.3	2751.7	6789.5
37085205100000	-80.03499	41.4021	50.6	1763.3	23.6	51.8	77.0	106.3	131.6	3141.1	7788.1
37085205150000	-80.46688	41.2693	50.9	1575.2	26.6	57.6	84.7	116.1	143.9	2804.6	7038.4
37085205160000	-80.41899	41.2639	53.8	1636.8	27.4	59.6	87.2	120.2	149.0	2708.4	6698.9
37085205190000	-80.34957	41.4786	43.6	1424.0	24.3	52.1	77.1	104.6	129.7	3135.1	8042.0
37085205240000	-80.11251	41.4358	48.1	1681.0	23.3	50.8	75.6	103.9	128.6	3208.5	8030.4

37085205250000	-80.35796	41.4588	44.3	1435.6	24.6	52.6	78.0	105.8	131.3	3095.1	7921.8
37085205260000	-80.34501	41.4717	45.5	1440.2	25.3	54.3	80.1	108.9	135.1	2994.2	7668.2
37085205270000	-80.35056	41.4699	44.3	1434.1	24.6	52.7	78.0	105.9	131.4	3091.3	7921.7
37085205290000	-80.16633	41.3410	58.2	1795.3	27.4	60.3	88.2	122.8	152.1	2676.2	6456.1
37085205300000	-80.35717	41.3034	53.8	1639.2	27.3	59.4	87.1	120.0	148.8	2712.8	6700.2
37085205320000	-80.46470	41.2599	51.1	1599.0	26.4	57.3	84.2	115.6	143.3	2823.3	7078.5
37085205340000	-80.42459	41.2560	54.0	1656.6	27.2	59.3	86.8	119.7	148.4	2723.6	6733.4
37085205440000	-80.49190	41.4677	45.8	1419.8	25.9	56.1	82.3	111.5	138.4	2902.0	7532.6
37085205460000	-80.50127	41.2705	52.3	1548.4	27.9	60.6	88.5	121.3	150.4	2662.2	6665.9
37085205480000	-80.46015	41.2619	51.1	1591.1	26.4	57.4	84.3	115.7	143.5	2817.3	7064.9
37085205490000	-80.09537	41.4608	49.7	1674.9	24.3	53.2	78.7	108.2	134.0	3059.3	7659.4
37085205500000	-80.14744	41.4697	48.2	1635.3	24.0	52.3	77.5	106.3	131.7	3114.2	7843.7
37085205510000	-80.36458	41.2016	59.6	1767.8	28.6	62.6	91.4	127.3	157.7	2565.4	6116.8
37085205530000	-80.08443	41.4463	50.6	1704.1	24.4	53.5	79.1	109.0	135.0	3039.3	7586.6
37085205540000	-80.07683	41.4572	54.2	1676.1	27.0	58.9	86.4	119.2	147.7	2741.2	6764.3
37085205550000	-80.08953	41.4391	51.8	1712.1	25.0	54.8	80.9	111.6	138.2	2962.4	7368.7
37085205570000	-80.15291	41.4747	47.6	1630.4	23.7	51.7	76.7	105.0	130.1	3156.0	7961.4
37085205580000	-80.10938	41.4587	53.8	1690.1	26.5	58.1	85.2	117.6	145.8	2785.3	6897.4
37085205770000	-80.41610	41.2698	54.5	1603.2	28.4	61.6	89.9	123.8	153.5	2611.6	6432.2
37085205910000	-80.39347	41.2399	57.0	1682.5	28.6	62.3	90.9	125.8	155.9	2581.9	6264.2
37085205920000	-80.43761	41.3566	50.2	1561.2	26.4	57.6	84.4	115.5	143.2	2815.9	7145.2
37085205940000	-80.45086	41.2690	53.0	1562.1	28.2	60.8	88.9	122.1	151.4	2645.6	6572.5
37085206040000	-80.38216	41.1885	58.0	1723.6	28.4	61.9	90.6	125.7	155.7	2591.8	6226.9
37085206060000	-80.07613	41.4404	55.1	1712.4	26.9	59.1	86.5	119.7	148.3	2735.4	6720.6
37085206120000	-80.35954	41.2132	58.9	1757.5	28.4	62.1	90.7	126.2	156.4	2587.3	6191.7
37085206130000	-80.35049	41.4838	43.6	1420.1	24.4	52.0	77.1	104.5	129.6	3139.5	8028.6
37085206240000	-80.35921	41.2037	59.5	1765.1	28.6	62.7	91.5	127.4	157.8	2563.4	6111.7
37085206250000	-80.35350	41.2153	59.5	1761.7	28.7	62.7	91.5	127.4	157.8	2561.0	6105.4
37085206260000	-80.37003	41.1975	59.0	1763.0	28.3	62.1	90.6	126.1	156.2	2590.9	6202.4
37085206280000	-80.11013	41.4288	57.1	1687.1	28.5	62.2	90.8	125.7	155.8	2584.6	6273.6
37085206290000	-80.37696	41.2088	54.8	1738.3	26.4	57.6	84.7	117.4	145.3	2804.2	6854.4
37085206400000	-80.35692	41.2199	59.3	1745.6	28.8	63.0	91.9	127.9	158.4	2547.2	6079.0
37085206410000	-80.35641	41.2081	55.7	1774.5	26.3	57.7	84.9	117.9	145.9	2798.8	6809.3
37085206450000	-80.36822	41.2060	53.9	1758.4	25.5	55.9	82.4	114.3	141.4	2895.0	7100.1
37085206900000	-80.06992	41.4251	52.3	1705.1	25.4	55.4	81.8	112.9	139.8	2922.4	7240.2

37085206960000	-80.21979	41.2790	56.6	1749.9	27.2	59.0	86.8	120.6	149.3	2722.7	6563.6
37085207020000	-80.27572	41.4712	50.9	1574.3	26.6	57.8	84.8	116.3	144.1	2799.0	7041.3
37085207260000	-80.16470	41.3489	55.4	1743.5	26.6	58.1	85.5	118.5	146.8	2774.5	6756.8
37085207430000	-80.44683	41.2132	57.0	1676.4	28.6	62.4	91.0	126.0	156.1	2576.6	6254.2
37085207440000	-80.44428	41.1911	55.5	1639.8	28.3	61.3	89.7	123.8	153.5	2619.1	6379.0
37085207500000	-80.45979	41.1976	54.7	1623.7	28.2	61.0	89.2	123.1	152.5	2634.6	6459.6
37085207530000	-80.48703	41.1744	56.3	1667.3	28.4	61.8	90.3	124.8	154.7	2600.8	6337.0
37085207650000	-80.42548	41.2121	56.5	1682.5	28.2	61.5	89.9	124.3	154.1	2615.6	6359.8
37085207730000	-80.44284	41.2171	56.5	1682.5	28.2	61.6	90.0	124.5	154.2	2613.0	6363.5
37085207770000	-80.45101	41.2083	57.2	1700.8	28.4	62.1	90.6	125.5	155.5	2592.6	6301.7
37085207830000	-80.42557	41.1932	53.1	1681.0	26.3	56.9	83.9	115.9	143.5	2833.9	6971.8
37085207890000	-80.45746	41.3552	53.7	1577.6	28.3	61.8	90.0	123.6	153.4	2609.8	6510.6
37085207930000	-80.42348	41.2189	53.8	1690.1	26.5	57.9	85.0	117.4	145.4	2792.9	6889.5
37085207940000	-80.46796	41.2102	56.3	1664.2	28.4	62.0	90.5	125.1	155.0	2594.0	6337.9
37085208000000	-80.44177	41.3652	49.2	1522.2	26.4	57.1	83.9	114.6	142.1	2836.2	7187.9
37085208050000	-80.43701	41.1971	54.3	1684.0	26.9	58.6	86.0	118.8	147.2	2754.0	6770.5
37085208210000	-80.43684	41.2067	57.7	1691.6	28.8	62.8	91.6	126.9	157.3	2557.4	6184.6
37085208250000	-80.44470	41.2059	57.2	1694.7	28.4	62.1	90.6	125.5	155.5	2591.0	6286.3
37085208370000	-80.43040	41.2064	54.3	1686.5	26.9	58.6	86.0	118.8	147.1	2755.9	6774.7
37085208390000	-80.46851	41.2253	56.2	1654.1	28.5	62.2	90.8	125.4	155.4	2585.3	6321.3
37085208400000	-80.41461	41.2099	55.0	1699.3	27.1	59.0	86.6	119.8	148.4	2732.2	6690.0
37085208440000	-80.40553	41.2124	53.9	1698.3	26.4	57.6	84.7	117.0	144.9	2805.1	6897.6
37085208450000	-80.41134	41.2140	53.2	1690.1	26.2	57.0	83.9	115.8	143.5	2836.1	6991.8
37085208460000	-80.41921	41.2132	54.5	1702.6	26.7	58.3	85.6	118.4	146.7	2768.1	6802.7
37085208480000	-80.00100	41.4865	53.2	1685.2	26.2	57.6	84.5	116.5	144.4	2814.4	7000.7
37085208570000	-80.40299	41.2176	52.3	1707.8	25.4	55.4	81.7	112.8	139.7	2925.3	7244.0
37085208620000	-80.15979	41.3629	53.2	1686.5	26.2	56.8	83.8	115.7	143.3	2838.9	6980.3
37085208700000	-80.42012	41.2346	51.5	1689.2	25.2	55.0	81.2	112.0	138.7	2946.8	7330.2
37085208740000	-80.39791	41.2510	55.6	1650.8	28.2	61.2	89.6	123.7	153.3	2623.8	6403.6
37085209180000	-80.39190	41.2238	56.6	1699.0	28.0	61.2	89.5	123.9	153.5	2629.9	6386.8
37085209190000	-80.39572	41.2317	52.2	1699.6	25.4	55.5	81.9	113.0	139.9	2918.3	7231.0
37085209210000	-80.42448	41.2253	51.1	1697.7	24.8	54.2	80.1	110.4	136.7	2995.3	7458.1
37085209270000	-80.42576	41.2376	54.0	1714.8	26.3	57.7	84.6	117.0	144.9	2807.7	6935.6
37085209310000	-80.41571	41.2271	55.5	1694.7	27.4	60.0	87.8	121.4	150.4	2689.5	6584.8
37085209340000	-80.37662	41.2658	54.5	1655.1	27.5	59.9	87.7	121.0	150.0	2690.5	6622.0

37085209350000	-80.39754	41.2215	53.9	1706.9	26.3	57.5	84.6	116.9	144.8	2809.8	6913.9
37085209360000	-80.38845	41.2434	58.0	1669.1	29.4	63.9	93.1	128.9	159.7	2509.8	6048.7
37085209480000	-80.34715	41.2495	57.0	1682.5	28.6	61.8	90.5	125.3	155.3	2592.1	6249.2
37085209490000	-80.41100	41.2575	56.1	1647.7	28.6	62.2	90.8	125.4	155.4	2584.2	6304.3
37085209500000	-80.40337	41.2609	60.1	1659.9	30.8	67.2	97.4	134.9	167.2	2382.3	5678.6
37085209520000	-80.40118	41.2550	56.4	1675.5	28.3	61.7	90.1	124.7	154.5	2606.7	6352.2
37085209530000	-80.39064	41.2604	53.3	1642.9	27.0	58.6	86.0	118.5	146.8	2754.8	6810.2
37085209580000	-80.34988	41.2446	53.8	1693.2	26.5	57.4	84.5	116.9	144.7	2809.7	6880.1
37085209590000	-80.36006	41.2535	57.2	1695.0	28.4	61.9	90.5	125.3	155.3	2594.6	6281.9
37085209640000	-80.36260	41.2409	62.2	1695.9	31.4	68.1	98.8	137.4	170.3	2338.9	5468.9
37085209650000	-80.35715	41.2437	62.4	1719.7	31.1	67.8	98.3	136.8	169.6	2356.1	5514.9
37085209700000	-80.38919	41.2692	48.1	1624.0	24.1	52.1	77.4	106.1	131.4	3121.1	7818.5
37085209710000	-80.42027	41.2532	53.4	1654.8	26.8	58.5	85.8	118.3	146.6	2760.7	6834.1
37085209730000	-80.39737	41.2594	56.4	1670.6	28.3	61.8	90.3	124.8	154.7	2601.9	6345.1
37085209750000	-80.42903	41.2419	56.0	1693.2	27.8	60.9	88.9	123.0	152.4	2649.8	6487.3
37085209770000	-80.38755	41.2742	61.9	1615.4	32.7	71.1	102.6	142.0	176.1	2240.0	5264.6
37085209780000	-80.38373	41.2711	55.8	1618.5	28.9	62.7	91.5	126.2	156.5	2558.7	6255.6
37085209790000	-80.41739	41.2572	60.7	1658.1	31.2	68.0	98.4	136.4	169.1	2352.9	5590.2
37085209810000	-80.42648	41.2335	54.2	1678.8	26.9	58.8	86.2	119.0	147.5	2747.1	6764.8
37085209820000	-80.40991	41.2520	54.2	1673.4	27.0	58.9	86.3	119.2	147.7	2741.9	6756.4
37085209850000	-80.41099	41.2364	62.1	1688.6	31.4	68.7	99.4	138.0	171.1	2327.2	5469.6
37085209860000	-80.40464	41.2672	56.0	1635.6	28.7	62.4	91.1	125.8	155.9	2572.8	6285.2
37085209890000	-80.38009	41.2349	84.0	2682.2	27.9	61.4	90.2	124.2	153.9	2600.9	6376.8
37085210040000	-80.36061	41.2697	55.4	1685.5	27.5	60.2	88.0	121.7	150.8	2680.1	6571.7
37085210050000	-80.34460	41.2367	51.7	1758.7	24.3	53.3	78.9	109.1	135.0	3051.1	7548.9
37085210060000	-80.08061	41.4287	50.9	1681.9	24.9	54.2	80.2	110.5	136.8	2990.7	7427.4
37085210090000	-80.35143	41.2611	56.8	1716.0	27.9	61.1	89.2	123.7	153.2	2638.8	6422.7
37085210120000	-80.35343	41.2711	55.1	1658.1	27.8	60.6	88.6	122.3	151.6	2659.2	6523.3
37085210130000	-80.33861	41.2515	58.2	1743.2	28.2	61.9	90.3	125.5	155.4	2602.1	6268.5
37085210140000	-80.33397	41.2604	57.2	1695.6	28.4	61.8	90.4	125.2	155.2	2597.5	6279.5
37085210150000	-80.32885	41.2516	58.1	1737.4	28.3	61.9	90.4	125.6	155.6	2598.5	6257.0
37085210170000	-80.33997	41.2679	55.8	1667.3	28.1	61.0	89.2	123.3	152.8	2637.7	6431.3
37085210180000	-80.35652	41.2586	57.4	1713.6	28.2	61.7	90.2	125.0	154.9	2606.9	6318.0
37085210190000	-80.34661	41.2656	55.8	1668.8	28.0	61.0	89.2	123.3	152.8	2637.1	6436.3
37085210220000	-80.31867	41.2573	58.3	1749.6	28.2	61.6	90.1	125.2	155.1	2609.9	6275.4

37085210250000	-80.34716	41.2717	54.9	1635.3	28.1	60.7	88.9	122.7	152.0	2646.2	6476.9
37085210270000	-80.35415	41.2508	57.5	1723.6	28.1	61.6	89.9	124.7	154.5	2615.5	6334.4
37085210280000	-80.31876	41.2513	58.3	1754.1	28.1	61.6	90.0	125.1	155.0	2612.8	6284.4
37085210290000	-80.33406	41.2700	56.6	1695.0	28.1	61.2	89.5	124.0	153.6	2627.2	6379.3
37085210310000	-80.38373	41.2314	57.3	1706.9	28.3	61.8	90.3	125.1	155.0	2602.9	6304.3
37085210350000	-80.33733	41.2461	58.4	1758.7	28.1	61.6	90.0	125.1	155.0	2614.0	6296.0
37085210380000	-80.32777	41.2624	56.2	1714.2	27.6	60.2	88.1	122.1	151.3	2676.5	6510.6
37085210430000	-80.32813	41.2704	56.7	1703.2	28.0	61.1	89.3	123.7	153.3	2634.3	6392.9
37085210490000	-80.29119	41.2613	57.6	1734.9	28.0	61.1	89.4	124.2	153.8	2631.1	6344.4
37085210520000	-80.30603	41.2568	56.0	1691.6	27.8	60.3	88.4	122.5	151.7	2663.5	6465.4
37085210530000	-80.29258	41.2553	57.2	1700.5	28.4	61.5	90.0	124.8	154.6	2607.6	6279.0
37085210580000	-80.30567	41.2624	53.4	1653.5	26.9	58.0	85.4	117.8	145.9	2776.7	6814.5
37085210970000	-80.06728	41.4605	55.0	1698.3	27.1	59.4	87.0	120.2	149.0	2719.6	6702.3
37085210990000	-80.25792	41.2983	56.6	1749.6	27.2	59.5	87.2	121.1	149.9	2710.0	6564.1
37085211040000	-80.27365	41.2801	56.7	1758.1	27.1	59.3	87.0	120.9	149.7	2717.3	6578.0
37085211080000	-80.30058	41.2649	53.4	1654.1	26.8	57.9	85.3	117.7	145.8	2778.2	6814.5
37085211090000	-80.26792	41.2763	57.4	1769.4	27.3	59.8	87.7	121.9	151.0	2692.7	6498.5
37085211110000	-80.30249	41.3019	54.9	1695.9	27.1	59.1	86.7	119.9	148.5	2728.2	6685.8
37085211230000	-80.33240	41.2654	55.0	1697.7	27.1	59.0	86.6	119.8	148.4	2731.1	6687.3
37085211250000	-80.28456	41.2767	52.0	1729.7	24.8	54.2	80.2	110.8	137.1	2993.0	7384.8
37085211260000	-80.32532	41.2764	54.3	1684.9	26.9	58.6	86.0	118.8	147.2	2754.9	6771.9
37085211270000	-80.28111	41.2948	55.4	1740.4	26.7	58.3	85.7	118.8	147.1	2767.8	6756.4
37085211280000	-80.27893	41.3027	55.9	1733.1	27.1	59.3	86.9	120.4	149.2	2722.3	6647.5
37085211330000	-80.32477	41.2668	55.0	1703.5	27.0	58.9	86.4	119.6	148.1	2737.8	6694.8
37085211390000	-80.31258	41.2622	56.6	1748.9	27.2	59.6	87.4	121.3	150.2	2704.8	6569.1
37085211410000	-80.26691	41.2710	54.1	1775.5	25.4	55.6	82.1	113.8	140.9	2911.4	7125.5
37085211440000	-80.02190	41.4817	51.7	1595.3	26.7	57.8	85.0	116.8	144.8	2790.2	6951.3
37085211500000	-80.08252	41.4561	54.3	1683.7	26.9	58.9	86.3	119.1	147.6	2744.2	6780.5
37085211520000	-80.28910	41.2711	55.8	1728.2	27.1	59.1	86.7	120.2	148.9	2726.9	6629.0
37085211560000	-80.29839	41.2545	54.2	1678.5	26.9	58.3	85.8	118.6	146.8	2761.1	6748.8
37085211600000	-80.26473	41.2660	57.5	1779.7	27.2	59.6	87.4	121.6	150.6	2702.7	6513.9
37085212910000	-80.37115	41.2430	78.0	2526.5	27.3	60.2	88.3	121.8	151.0	2665.7	6562.3
37085222320000	-80.21204	41.2676	58.0	1775.8	27.6	60.2	88.2	122.8	152.1	2672.1	6402.6
37085222350000	-80.20602	41.2687	57.6	1798.3	27.1	59.2	86.9	121.1	149.9	2720.2	6541.9
37085222810000	-80.33243	41.2470	57.4	1773.6	27.3	60.1	87.9	122.1	151.3	2688.0	6518.9

37085223050000	-80.13519	41.2855	58.9	1810.8	27.6	60.4	88.4	123.4	152.8	2666.3	6369.1
37085223130000	-80.23242	41.2480	60.6	1811.7	28.5	62.4	91.2	127.3	157.6	2574.7	6094.4
37085223190000	-80.22318	41.2843	57.9	1765.1	27.7	60.5	88.6	123.3	152.6	2659.6	6390.0
37085223280000	-80.19429	41.2942	57.4	1769.7	27.3	59.6	87.4	121.6	150.6	2700.4	6489.3
37085223440000	-80.13673	41.2668	59.8	1843.7	27.5	60.6	88.6	123.9	153.4	2660.7	6331.8
37085223490000	-80.24499	41.1181	58.5	1951.3	25.4	56.4	82.8	115.9	143.4	2880.5	6955.0
37085223510000	-80.21015	41.2857	58.6	1781.3	27.8	60.9	89.1	124.1	153.7	2642.0	6319.8
37085223540000	-80.19655	41.3068	54.6	1767.2	25.8	56.3	83.0	115.2	142.5	2871.9	7000.5
37085223580000	-80.34861	41.2784	52.5	1621.8	26.8	58.0	85.3	117.4	145.5	2779.8	6878.8
37085223860000	-80.15426	41.4643	50.7	1659.0	25.1	55.1	81.2	111.6	138.3	2948.2	7408.5
37085224010000	-80.33897	41.2223	58.0	1778.5	27.6	60.5	88.6	123.2	152.6	2663.5	6422.2
37085224090000	-80.07272	41.3906	53.9	1754.1	25.6	56.1	82.6	114.5	141.7	2887.6	7096.7
37085224110000	-80.16155	41.4574	53.5	1659.0	26.8	58.7	86.0	118.5	146.9	2754.2	6851.9
37085224150000	-80.22767	41.2224	53.4	1766.3	25.2	54.8	81.1	112.5	139.2	2950.8	7213.0
37085224490000	-80.38807	41.1323	60.4	1849.8	27.8	61.3	89.5	125.0	154.7	2632.0	6291.9
37085224640000	-80.30693	41.2238	53.1	1790.1	24.7	54.4	80.2	111.1	137.6	2989.5	7396.0
37085224650000	-80.36618	41.1300	60.9	1850.4	28.1	61.9	90.3	126.3	156.4	2604.3	6178.3
37085229780000	-80.44307	41.4450	39.3	1485.6	20.4	44.2	66.7	90.0	111.7	3968.6	9412.4
37085229800000	-80.46578	41.4413	38.9	1449.9	20.7	44.5	67.1	90.4	112.2	3945.0	9374.7
37085230200000	-80.46891	41.4451	40.0	1444.8	21.5	45.2	68.4	92.6	114.6	3743.4	9045.4
37085230260000	-80.43665	41.4446	38.2	1480.1	19.7	42.6	64.5	87.0	107.9	4153.1	9703.4
37085230670000	-80.47639	41.4636	38.2	1430.4	20.4	44.0	66.4	89.3	110.8	4026.3	9504.4
37085230700000	-80.49598	41.1753	45.7	1658.1	22.1	48.1	72.0	98.6	122.1	3402.5	8506.3
37085231400000	-80.49233	41.1715	48.9	1651.1	24.2	52.4	77.9	107.0	132.5	3098.4	7735.8
37085231490000	-80.48103	41.4552	40.5	1444.8	21.8	47.3	70.7	95.4	118.4	3674.7	8930.7
37085231520000	-80.02673	41.4289	50.4	1743.2	23.8	52.2	77.4	106.8	132.2	3119.0	7760.8
37085231640000	-80.50354	41.4603	40.0	1446.0	21.4	46.6	69.7	94.0	116.7	3763.4	9078.6
37085231660000	-80.44418	41.4708	42.6	1431.3	23.5	50.6	75.1	101.6	126.1	3253.4	8342.8
37085231720000	-80.49777	41.4607	41.1	1446.9	22.2	48.3	71.9	97.1	120.6	3585.1	8792.4
37085231820000	-80.45827	41.4576	41.2	1455.4	22.1	47.8	71.5	96.6	119.9	3581.0	8798.0
37085231830000	-80.44222	41.4309	45.1	1500.2	24.0	52.1	77.1	104.8	130.1	3134.1	8034.1
37085231840000	-80.49339	41.4512	43.9	1449.3	24.1	52.3	77.3	104.6	129.9	3127.9	8100.9
37085231860000	-80.50590	41.4644	41.0	1436.5	22.3	48.4	72.1	97.2	120.8	3582.6	8779.5
37085231900000	-80.41706	41.4289	45.6	1495.7	24.5	52.8	78.2	106.3	131.9	3084.6	7894.1
37085231910000	-80.42252	41.4292	45.2	1513.9	23.9	51.9	76.9	104.5	129.7	3147.4	8053.1

37085231920000	-80.47959	41.4212	43.5	1508.8	22.9	49.8	74.0	100.4	124.5	3293.8	8450.8
37085231930000	-80.49976	41.4877	40.5	1394.5	22.6	48.9	72.7	98.0	121.7	3555.2	8727.8
37085231950000	-80.10567	41.4805	50.9	1676.4	25.0	54.7	80.7	111.1	137.7	2967.6	7432.0
37085232060000	-80.00573	41.4409	52.8	1759.0	24.9	54.8	80.9	111.9	138.5	2962.5	7329.0
37085232170000	-80.05772	41.4709	52.3	1656.0	26.2	57.0	83.9	115.5	143.1	2837.3	7054.2
37085232420000	-80.01634	41.4449	54.2	1734.0	26.1	57.3	84.1	116.5	144.2	2827.0	6963.4
37085232430000	-80.44572	41.4496	44.2	1477.4	23.9	51.6	76.5	103.8	128.8	3164.4	8135.2
37085232470000	-80.51808	41.4477	43.9	1449.9	24.1	52.4	77.4	104.7	130.1	3122.5	8104.5
37085232500000	-80.01415	41.4409	52.6	1733.7	25.1	55.2	81.4	112.4	139.2	2941.2	7289.5
37085232820000	-80.48830	41.4231	46.7	1499.6	25.2	54.6	80.4	109.5	135.8	2980.6	7650.3
37085232830000	-80.50833	41.4479	44.6	1461.2	24.4	53.0	78.2	106.0	131.6	3080.7	7987.4
37085232970000	-80.03766	41.4819	50.3	1625.5	25.4	55.2	81.5	111.9	138.7	2934.8	7344.8
37085233010000	-80.43863	41.4332	41.1	1489.6	21.5	46.5	69.7	94.3	117.0	3694.8	8980.5
37085233040000	-80.51071	41.4315	44.3	1479.8	23.8	51.8	76.7	104.0	129.1	3155.0	8143.7
37085233200000	-80.43467	41.4302	45.1	1499.6	24.0	52.0	77.1	104.8	130.0	3137.4	8031.5
37085233290000	-80.07933	41.4789	50.9	1680.7	24.9	54.6	80.6	111.0	137.4	2973.8	7436.7
37085233340000	-80.51612	41.4439	44.0	1456.6	24.0	52.2	77.2	104.5	129.8	3131.0	8112.8
37085233350000	-80.50998	41.4439	43.4	1453.9	23.7	51.3	76.0	103.0	127.8	3188.0	8241.5
37085233370000	-80.49748	41.4424	44.2	1476.8	23.9	51.9	76.8	104.1	129.2	3151.6	8139.8
37085233410000	-80.44117	41.4105	45.0	1494.7	24.1	52.0	77.1	104.8	130.0	3135.9	8023.1
37085233500000	-80.47425	41.4303	44.7	1467.6	24.3	52.5	77.7	105.5	130.9	3105.9	7986.9
37085233520000	-80.44643	41.4118	44.9	1482.2	24.2	52.2	77.3	105.0	130.2	3127.6	8003.8
37085233610000	-80.44011	41.4591	45.6	1448.7	25.3	54.4	80.2	108.9	135.1	2992.3	7693.2
37085233700000	-80.10968	41.4770	50.3	1674.9	24.7	54.0	79.8	109.7	135.9	3009.6	7545.2
37085233810000	-80.42146	41.4133	45.3	1521.0	23.9	51.7	76.6	104.3	129.3	3159.4	8060.5
37085233820000	-80.41876	41.4170	46.6	1537.4	24.5	53.1	78.5	107.0	132.7	3069.2	7828.6
37085233920000	-80.47365	41.4206	43.9	1492.0	23.4	50.7	75.2	102.1	126.7	3228.9	8291.0
37085233930000	-80.47606	41.4242	44.4	1488.9	23.8	51.5	76.3	103.6	128.6	3172.9	8152.2
37087200020000	-77.62851	40.5116	82.9	4085.8	18.1	44.3	60.7	86.4	110.3	4104.9	8882.9
37097200020000	-76.67426	40.8574	93.8	4490.9	18.9	46.6	60.1	89.3	114.5	3978.4	8555.7
37103200030000	-75.14159	41.4165	122.7	4239.8	26.8	68.0	81.3	125.2	162.3	2961.3	5500.4
37105000130000	-78.10282	41.9765	48.2	1585.6	24.7	57.0	81.4	109.9	137.9	3000.8	7191.9
37105000140000	-78.09253	41.9809	45.5	1489.6	24.5	59.0	83.0	112.5	141.5	2903.4	7129.7
37105000160000	-78.10209	41.9724	47.1	1535.0	24.8	58.9	82.9	112.8	141.8	2949.1	7030.7
37105000170000	-78.08793	41.9838	44.8	1478.0	24.2	58.7	82.5	111.7	140.5	2906.8	7220.2

37105000180000	-78.10871	41.9734	44.6	1512.1	23.6	56.4	79.6	108.2	135.9	3005.6	7478.3
37105000200000	-78.10586	41.9719	46.1	1495.4	24.8	60.2	83.9	114.9	144.5	2900.3	6939.8
37105002780000	-77.69485	41.9766	48.6	1566.7	25.3	59.5	77.2	106.8	134.5	3645.3	8881.2
37105002790000	-77.69496	41.9746	48.3	1589.2	24.7	57.3	75.4	104.1	131.1	3614.0	8828.2
37105002830000	-77.72659	41.9677	49.0	1609.3	24.9	59.5	79.0	109.1	137.4	3236.2	8165.8
37105004100000	-77.96623	41.5131	55.3	1923.3	24.1	62.5	82.7	125.3	159.2	3101.5	5585.2
37105004460000	-77.99670	41.5045	45.2	1865.7	19.4	52.3	69.4	107.1	135.3	3173.9	7386.2
37105008910000	-78.03138	41.4814	40.5	1592.0	19.8	61.1	76.0	127.1	160.3	2958.0	5528.3
37105200390000	-77.69384	41.4934	62.3	2056.5	25.9	67.7	88.6	132.0	168.9	2886.7	5226.6
37105200500000	-77.65064	41.5238	60.5	2044.9	25.2	65.8	86.3	128.3	164.1	2837.5	5405.5
37105201480000	-77.80523	41.8619	59.3	1583.7	31.8	98.2	117.1	208.3	261.1	2086.9	3181.8
37105201490000	-78.04149	41.5847	71.1	1893.1	32.8	74.9	104.7	149.3	188.6	2140.5	4526.9
37105201530000	-77.77864	41.8774	54.1	1618.2	27.9	86.1	103.5	183.4	229.8	3450.0	3792.0
37105201540000	-77.81470	41.8675	61.6	1637.4	32.1	95.0	115.3	198.7	249.8	2178.3	3470.9
37105201550000	-77.83278	41.8569	53.6	1622.2	27.5	84.8	102.1	180.9	226.5	3725.1	3848.3
37105201560000	-77.78148	41.8855	62.9	1684.3	32.0	88.4	111.0	180.3	227.5	2575.4	3743.1
37105201580000	-77.82489	41.8661	61.9	1643.8	32.2	96.6	116.4	203.6	255.7	2111.5	3343.3
37105201820000	-77.77445	41.4893	126.7	5731.5	20.5	51.0	72.3	99.0	126.6	3413.6	7658.6
37105201830000	-77.99052	41.5029	51.7	1868.7	22.8	61.5	80.1	124.5	157.8	3884.3	5640.5
37105201940000	-77.99543	41.5013	61.1	1869.6	27.9	75.1	96.0	150.3	191.2	2696.7	4488.6
37105201960000	-78.00227	41.4935	51.2	1876.4	22.5	60.4	78.9	122.0	154.7	3264.3	5774.7
37105202100000	-78.00821	41.4964	59.8	1911.1	26.6	69.8	90.9	139.2	177.1	2818.1	4923.5
37105202110000	-78.01496	41.4898	65.6	1855.3	30.5	82.4	104.4	165.0	209.9	2342.8	4008.2
37105202120000	-78.01862	41.4937	63.6	1841.3	29.7	80.6	102.1	162.1	206.0	3105.3	4092.0
37105202140000	-78.00329	41.5078	55.8	1838.9	25.5	69.2	88.8	140.3	177.7	2993.4	4884.4
37105202150000	-78.00274	41.5124	65.8	1836.1	30.9	83.5	105.9	168.5	213.8	2274.2	3971.3
37105202160000	-77.99481	41.5092	61.2	1819.7	28.7	78.9	99.6	159.7	202.6	2876.6	4165.3
37105202180000	-77.99046	41.5126	67.2	1864.8	31.2	83.5	106.2	166.9	212.4	2310.9	3976.8
37105202210000	-77.98846	41.5193	58.8	1845.0	27.0	72.4	93.1	146.7	185.9	2753.5	4623.3
37105202230000	-77.97002	41.5087	55.1	1940.7	23.8	61.3	81.5	122.6	155.9	3591.3	5728.6
37105202290000	-78.01460	41.5020	54.6	1801.7	25.3	70.8	89.5	144.6	183.0	2702.2	4708.7
37105202690000	-77.73029	41.6700	62.2	1923.6	27.6	70.4	93.2	141.3	179.4	2870.5	4838.6
37105202850000	-77.97431	41.5069	52.9	1883.7	23.3	62.1	81.2	125.3	158.9	3783.3	5595.2
37105202860000	-78.02610	41.5058	67.9	1857.2	31.7	84.0	107.5	169.0	214.6	2258.8	3972.0
37105202870000	-78.00831	41.5154	55.1	1785.8	25.8	71.1	90.6	146.9	185.2	2793.9	4620.9

37105202880000	-78.02007	41.4866	68.8	1862.3	32.1	86.1	109.2	172.0	218.9	2424.5	3929.4
37105202900000	-78.02984	41.4962	52.1	1854.1	23.2	61.9	81.1	126.4	159.8	3692.7	5547.7
37105202920000	-78.01442	41.5117	50.6	1841.0	22.6	60.4	79.1	123.9	156.4	2966.3	5688.9
37105202960000	-77.91450	41.9222	55.4	1630.7	28.4	70.6	88.7	123.1	155.0	3203.6	8106.5
37105202970000	-77.90954	41.9174	67.7	1864.2	31.5	77.2	97.6	135.5	170.5	2584.9	6915.3
37105202990000	-77.88014	41.9173	53.0	1613.3	27.3	63.6	82.4	114.0	143.4	3262.7	8213.7
37105203000000	-77.87574	41.9332	56.7	1652.9	28.9	89.0	107.5	178.1	226.8	2301.7	3496.0
37105203010000	-77.88345	41.9294	54.0	1606.9	28.0	86.3	104.6	171.8	219.1	2419.3	3751.1
37105203020000	-77.80049	41.9509	46.4	1572.2	23.8	53.8	74.0	102.1	128.3	3310.4	8097.9
37105203030000	-77.90953	41.9116	52.4	1565.2	27.8	67.0	87.3	121.0	152.3	2810.5	7446.1
37105203040000	-77.93393	41.9003	48.2	1637.1	24.0	54.1	74.7	103.1	129.5	3274.1	7933.4
37105203050000	-77.90283	41.9229	50.4	1582.5	26.2	65.8	82.4	114.3	144.1	3705.8	8982.7
37105203060000	-77.84399	41.9329	47.0	1576.1	24.1	74.3	91.2	148.2	188.8	2596.2	4567.4
37105203140000	-78.13258	41.5789	63.5	2003.2	27.2	61.8	88.3	126.1	159.0	2749.9	5559.1
37105203150000	-77.87173	41.9217	55.9	1631.0	28.8	72.4	90.3	125.4	157.9	3215.9	8129.0
37105203160000	-77.92034	41.9142	47.5	1624.9	23.7	57.7	76.1	105.2	132.5	3532.9	8689.6
37105203170000	-77.90146	41.9284	51.7	1594.4	26.8	68.5	84.0	116.7	147.2	3937.9	9363.3
37105203260000	-77.90310	41.9134	49.7	1568.8	26.0	62.9	81.9	113.4	142.9	3234.6	8162.8
37105203270000	-77.93081	41.8964	51.2	1655.1	25.5	56.8	83.4	108.5	136.3	2924.9	7274.8
37105203290000	-77.71782	41.4863	62.2	2050.7	25.9	67.5	88.6	131.4	168.2	2989.9	5253.6
37105203300000	-77.72512	41.4850	63.0	2009.9	26.9	71.0	91.9	138.0	176.8	3463.1	4960.8
37105203310000	-77.70572	41.4934	65.9	2089.4	27.2	70.1	92.2	136.2	174.4	3945.6	5039.1
37105203320000	-77.71189	41.4916	65.9	2097.0	27.2	69.8	91.9	135.6	173.7	3467.9	5063.6
37105203330000	-77.68091	41.5192	62.9	2198.2	24.5	58.6	81.8	114.5	146.4	2812.9	6166.2
37105203340000	-77.73206	41.4874	64.8	2092.5	26.7	67.7	90.0	131.5	168.4	3010.2	5247.8
37105203360000	-77.70217	41.5026	64.8	2033.9	27.5	72.6	93.8	141.1	180.8	4478.2	4832.8
37105203390000	-77.92888	41.9023	54.6	1609.3	28.3	64.7	87.2	121.3	152.5	2697.1	6548.4
37105203400000	-77.85703	41.9265	47.4	1559.1	24.6	75.9	92.9	150.7	192.2	2594.5	4473.9
37105203420000	-77.86346	41.9238	50.7	1607.2	25.9	65.7	81.8	113.6	143.2	3857.0	9232.2
37105203430000	-77.87229	41.9301	54.8	1631.0	28.1	86.6	104.9	173.0	220.4	2401.3	3696.7
37105203440000	-77.91008	41.9075	53.5	1608.4	27.7	65.5	86.7	120.1	151.3	2722.5	7148.4
37105203450000	-77.84932	41.9324	52.8	1550.5	28.3	87.2	105.5	172.9	220.6	2410.4	3773.5
37105203470000	-77.84638	41.9276	51.7	1600.5	26.7	82.3	100.0	163.7	208.8	2436.2	4047.8
37105203480000	-77.91550	41.9116	50.5	1591.7	26.1	62.7	82.5	114.1	143.7	3069.5	7859.4
37105203490000	-77.82640	41.9350	52.9	1610.9	27.3	69.5	85.6	118.8	149.8	3762.0	9076.2

37105203500000	-77.83462	41.9357	51.4	1619.4	26.2	80.6	98.2	161.2	205.3	2398.0	4123.7
37105203510000	-77.78199	41.9595	54.7	1621.8	28.2	65.1	87.4	121.6	153.0	2692.5	6622.4
37105203560000	-77.93099	41.9106	57.3	1656.3	29.2	69.5	91.3	126.7	159.6	2503.5	6747.5
37105203570000	-77.80545	41.9476	55.6	1552.4	30.1	70.5	93.1	129.7	163.2	2497.4	6293.6
37105203600000	-77.93779	41.8946	55.6	1653.5	28.2	62.9	90.9	120.6	151.5	2750.3	6229.0
37105203610000	-77.94311	41.8970	55.2	1666.7	27.7	61.8	90.0	117.3	147.6	2782.6	6550.2
37105203630000	-77.88511	41.9273	49.7	1564.8	26.0	66.3	81.8	113.7	143.3	4022.0	9497.5
37105203650000	-77.88235	41.9321	52.4	1660.6	26.1	80.5	97.9	161.9	205.9	2594.9	4099.6
37105203660000	-77.90017	41.9183	50.7	1553.9	26.8	64.0	82.0	113.5	142.9	3425.2	8502.5
37105203770000	-77.77420	41.4843	57.7	1921.8	25.4	71.4	89.5	140.3	179.2	2339.9	4872.3
37105203830000	-77.67817	41.5128	62.5	2088.2	25.6	65.8	87.1	128.2	164.0	2771.8	5410.1
37105203880000	-77.76369	41.4981	57.1	1973.6	24.4	65.9	84.9	129.0	164.9	3008.5	5372.3
37105204100000	-77.75438	41.5032	71.0	1949.5	31.8	87.7	109.3	170.0	218.0	2145.0	3859.3
37105204110000	-77.79258	41.4809	57.7	1986.1	24.5	65.6	85.1	128.1	163.8	3015.0	5416.2
37105204130000	-77.84941	41.5736	67.4	1920.2	30.4	78.5	102.1	156.0	198.8	3417.4	4292.0
37105204280000	-77.70801	41.9710	54.8	1740.1	26.4	63.0	82.6	114.4	144.0	3085.8	7889.7
37105204360000	-78.14807	41.7020	59.4	1869.6	27.0	64.9	89.3	131.5	165.8	2603.0	5281.0
37105204370000	-78.00768	41.6133	63.6	2083.3	26.2	58.5	85.0	119.6	150.4	2898.3	6003.7
37105204380000	-77.65806	41.5500	67.8	2052.2	28.6	75.0	97.1	145.3	186.3	2646.0	4670.8
37105204470000	-78.17876	41.7453	62.8	1876.0	28.7	64.4	91.8	127.9	161.0	2629.7	5510.0
37105204540000	-77.65994	41.9846	50.3	1622.5	25.5	65.0	80.5	111.8	141.0	4084.6	9596.4
37105204580000	-77.81417	41.6428	67.7	2105.0	27.9	65.6	91.3	129.5	165.2	2845.4	5355.7
37105204590000	-78.04137	41.4906	57.3	1699.6	28.4	82.6	101.8	172.5	217.0	1328.7	3913.0
37105204670000	-78.18990	41.6437	71.8	2354.6	26.7	61.2	87.1	123.9	156.0	2785.6	5787.2
37105204680000	-77.91740	41.6196	62.5	2224.7	24.1	53.7	78.8	108.7	137.6	3167.8	6713.4
37105204730000	-77.72093	41.5056	66.8	2131.5	27.1	66.9	90.5	129.6	166.1	2814.4	5334.0
37105204740000	-77.73299	41.5343	69.0	2197.6	27.3	65.2	90.1	126.5	162.0	2588.1	5488.6
37105204780000	-78.16209	41.8799	54.8	1740.1	26.4	60.7	82.4	114.7	144.2	2890.5	6999.6
37105205520000	-77.94237	41.8728	57.0	1731.3	27.7	69.8	93.0	139.6	176.1	2195.6	4906.3
37105205550000	-77.77135	41.4815	59.8	1902.0	26.7	76.2	94.4	149.7	191.3	3594.1	4512.9
37105205560000	-77.75953	41.4888	62.3	1994.9	26.7	71.2	91.8	138.4	177.3	2268.6	4943.2
37105205690000	-77.81369	41.8467	49.3	1529.8	26.3	81.4	98.9	172.5	215.9	1115.7	3804.5
37105206880000	-78.01757	41.6864	58.7	1740.7	28.6	76.6	98.5	157.0	197.8	2589.9	4253.9
37105207220000	-77.89167	41.9132	51.1	1597.2	26.4	64.1	83.6	115.8	145.9	3080.4	7879.8
37105207410000	-77.78702	41.6055	55.8	1894.9	24.7	64.5	84.9	130.1	165.0	2837.0	5347.5

37105208480000	-78.05651	41.7779	27.0	852.8	21.1	64.0	83.4	130.2	163.7	2554.9	5456.5
37105209610000	-78.14441	41.7011	15.3	678.8	9.2	27.6	41.0	59.9	73.8	6411.6	12711.9
37105209620000	-78.14177	41.7060	12.1	648.0	4.8	14.4	25.1	34.1	40.8	9401.8	15561.0
37105209660000	-77.67370	41.5466	63.4	2124.5	25.6	64.5	86.5	125.7	160.9	2262.5	5532.2
37105209910000	-77.68025	41.5170	62.0	2096.7	25.3	64.1	85.7	124.9	159.8	2161.6	5573.7
37105209920000	-77.70536	41.5056	64.0	2134.5	25.8	64.2	86.7	125.0	160.0	2867.5	5568.5
37105209930000	-77.69934	41.5086	61.5	2100.4	25.0	63.2	84.7	123.1	157.5	2993.7	5670.3
37105210000000	-77.73260	41.4876	47.5	1570.3	24.5	75.5	92.8	150.7	192.0	2678.8	4474.4
37105210300000	-77.83830	41.9447	50.5	1644.1	25.3	77.9	94.8	156.0	198.6	2667.4	4291.1
37105210350000	-77.72914	41.4832	44.1	1392.3	25.2	77.4	96.3	152.8	195.1	2421.3	4401.1
37105210360000	-77.73132	41.4779	65.5	2043.1	27.6	71.8	93.8	139.1	178.4	2596.1	4912.2
37105210380000	-77.71874	41.4915	70.9	2031.5	30.5	80.1	103.0	154.7	198.5	2601.8	4341.1
37105210390000	-77.70558	41.5018	70.9	2031.5	30.5	80.5	103.2	155.5	199.5	2581.1	4315.2
37105210400000	-77.68233	41.5142	66.8	2065.3	28.0	68.1	92.6	133.4	170.6	2914.8	5165.4
37105210410000	-77.67269	41.5208	66.8	2064.7	28.0	72.2	94.6	139.9	179.3	4788.7	4881.3
37105210420000	-77.71271	41.4968	71.1	2049.8	30.3	79.5	102.4	153.7	197.1	2623.8	4375.0
37105210430000	-77.69633	41.5034	66.2	1997.1	28.6	77.2	98.3	150.0	192.2	2463.7	4499.7
37105210470000	-77.83608	41.5954	20.0	764.7	14.4	43.1	59.5	88.7	111.8	3980.1	9471.8
37105210610000	-78.03728	41.8449	70.7	1659.6	37.2	90.3	119.7	174.3	220.7	2199.2	3675.8
37105210900000	-77.88734	41.7892	66.2	1874.8	30.5	75.1	100.8	152.4	192.5	4403.8	4414.3
37105210920000	-77.90873	41.7906	45.5	1691.6	21.6	58.9	77.0	122.0	152.9	2783.7	6199.7
37105211000000	-77.85369	41.8090	55.0	1752.3	26.2	70.2	91.0	144.6	182.0	2566.3	4711.6
37105211010000	-77.83801	41.8211	53.2	1534.4	28.8	89.1	107.4	188.3	235.9	2739.9	3670.0
37111200020000	-79.18870	39.7354	79.7	2612.1	27.1	67.9	87.2	121.6	153.5	2692.2	7380.0
37111200030000	-79.26610	40.0408	75.5	2324.1	28.6	74.3	93.5	141.7	182.3	2547.3	4804.4
37111200040000	-79.04490	40.1234	73.5	2600.9	24.8	65.8	82.3	136.0	171.9	2862.0	5081.8
37111200050000	-79.09090	40.2120	86.3	2517.0	30.7	81.3	100.1	164.0	208.4	2320.4	4035.8
37111200110000	-79.06580	40.0963	69.3	2561.8	23.6	62.7	78.7	129.7	163.8	2979.9	5388.5
37111200130000	-79.39300	39.8896	89.9	2555.4	31.6	83.1	102.6	154.6	200.0	2229.7	4351.5
37111200150000	-79.25320	40.0461	78.2	2653.6	26.1	68.9	86.0	130.4	168.0	2786.2	5279.0
37111200170000	-79.08910	40.1072	81.4	2625.2	27.6	73.1	90.6	150.2	190.1	2622.8	4494.3
37111200190000	-79.38750	39.8777	89.5	2589.3	31.1	82.0	101.0	154.7	199.6	2273.1	4344.0
37111200210000	-79.06340	40.2411	87.3	2420.7	32.4	85.4	105.2	172.7	219.4	2193.4	3860.9
37111200220000	-79.07956	40.1010	85.5	2617.0	29.2	76.4	95.6	155.6	197.3	2489.3	4302.2
37111200230000	-79.10390	40.1860	76.3	2514.9	26.8	71.0	88.3	145.5	184.2	2689.1	4673.0

37111200250000	-79.40720	39.8681	87.6	2550.6	30.8	81.0	100.2	150.8	195.1	2303.2	4472.3
37111200260000	-79.13140	40.1620	74.5	2686.8	24.4	64.7	80.9	132.6	167.9	2919.4	5234.3
37111200270000	-78.99690	40.0947	101.9	2809.3	33.1	86.6	106.7	176.9	224.3	2159.0	3872.5
37111200280000	-79.11790	40.1750	93.9	2414.6	35.2	92.7	113.6	185.1	235.9	1982.3	3866.9
37111200290000	-78.77750	39.9262	86.4	2827.0	27.4	72.6	89.6	135.5	175.1	2613.5	5044.8
37111200300000	-79.03850	39.9610	91.4	2715.5	30.3	80.4	98.7	162.9	206.9	2346.9	4064.4
37111200310000	-79.02850	39.9684	79.0	2699.0	26.0	68.8	85.6	140.6	178.1	2775.0	4874.0
37111200320000	-79.04680	39.9514	88.1	2727.7	29.0	76.8	94.7	156.0	198.0	2478.7	4290.1
37111200350000	-78.90250	40.0846	92.9	2802.0	30.0	78.7	97.4	160.6	203.7	2416.1	4133.4
37111200370000	-79.12550	40.0916	83.5	2698.4	27.6	72.9	90.6	150.0	189.8	2631.5	4501.2
37111200380000	-79.16590	40.0544	82.3	2676.5	27.4	72.4	89.9	148.8	188.4	2648.1	4543.9
37111200390000	-79.19630	39.7270	77.0	2635.9	25.8	67.4	83.4	116.0	146.5	3753.6	9062.3
37111200410000	-78.85357	40.2269	44.4	1488.0	23.8	58.6	78.1	118.4	150.2	3121.6	5988.8
37111200420000	-79.16340	39.9908	90.4	2972.1	27.4	71.1	89.5	146.9	185.8	2686.1	4618.1
37111200430000	-78.94238	40.0305	76.1	2660.9	25.2	65.7	83.4	135.0	170.8	2839.6	5126.3
37111200440000	-79.11370	40.0682	88.9	2670.1	29.9	79.0	97.6	161.9	205.1	2410.2	4093.8
37111200450000	-79.33390	39.9778	146.2	6482.5	21.2	50.9	64.8	95.3	122.9	3717.3	7469.7
37111200470000	-78.92640	39.7617	51.3	1775.5	23.8	61.3	79.8	124.3	157.7	2991.2	5651.6
37111200490000	-78.92350	40.0589	80.1	2692.0	26.4	69.9	87.0	143.3	181.5	2733.2	4761.2
37111200510000	-78.77330	40.2250	79.6	2700.2	26.2	69.1	86.2	142.2	179.9	2758.2	4809.4
37111200570000	-78.99520	40.2527	80.0	2763.6	25.7	67.4	84.6	139.1	175.9	2814.1	4941.3
37111200590000	-78.93680	40.0446	81.6	2760.3	26.3	69.3	86.5	142.3	180.1	2755.4	4804.2
37111200620000	-78.86880	40.1762	79.7	2711.2	26.1	68.7	85.9	141.6	179.1	2768.0	4832.5
37111200630000	-78.95670	40.0189	84.0	2788.3	26.9	70.8	88.2	144.7	183.3	2706.4	4705.4
37111200650000	-79.03340	40.1802	98.1	2734.7	32.6	85.7	105.5	174.9	221.8	2189.5	3797.1
37111200690000	-79.00020	40.2449	81.5	2732.2	26.5	69.7	87.2	143.6	181.6	2731.5	4751.3
37111200700000	-78.87660	40.1673	85.6	2773.4	27.6	72.6	90.4	149.3	188.9	2642.0	4526.6
37111200710000	-79.35260	39.9047	76.9	2521.0	26.9	70.6	88.5	132.4	171.0	2706.2	5179.9
37111200720000	-79.18890	40.0119	88.5	2698.1	29.5	78.0	96.1	158.6	201.3	2441.8	4199.4
37111200730000	-78.90940	40.0720	80.1	2687.4	26.5	70.0	87.1	143.8	182.0	2729.3	4741.3
37111200740000	-79.11990	39.9410	83.1	2726.1	27.2	71.4	89.2	146.7	185.6	2671.9	4628.3
37111200750000	-79.30830	40.0039	78.3	2483.5	27.9	72.7	91.2	135.5	175.2	2603.2	5043.8
37111200760000	-79.18490	40.0230	99.4	2658.2	34.0	90.1	109.9	183.2	232.5	2055.1	3956.0
37111200770000	-79.12730	40.0030	92.1	2857.2	29.1	76.0	94.7	156.1	197.6	2526.3	4282.7
37111200790000	-78.95410	40.0182	74.2	2719.4	24.0	63.4	79.6	130.2	164.7	2971.4	5357.3

37111200800000	-79.11010	39.9342	83.3	2756.9	26.9	70.8	88.4	146.0	184.6	2697.8	4655.7
37111200810000	-79.17120	39.9221	88.9	2675.2	29.9	79.0	97.4	161.9	205.1	2408.8	4091.5
37111200830000	-79.05810	40.0392	105.6	2789.2	34.7	91.0	111.5	185.6	235.4	2032.4	3928.1
37111200840000	-79.07790	39.9876	95.4	2844.7	30.4	79.4	98.6	163.0	206.4	2394.0	4058.2
37111200850000	-79.11860	39.9240	87.4	2697.5	29.1	76.7	94.9	157.5	199.5	2493.5	4234.2
37111200860000	-79.19060	39.9669	95.8	2827.0	30.7	80.7	99.7	164.0	208.1	2339.7	4032.1
37111200870000	-79.17470	39.9425	82.6	2733.5	26.9	70.9	88.4	146.1	184.8	2696.0	4648.6
37111200890000	-78.85890	40.1394	85.6	2782.8	27.5	72.5	90.2	148.0	187.6	2650.0	4575.5
37111200900000	-79.10560	39.9580	85.0	2775.2	27.4	71.9	89.8	147.9	187.1	2660.3	4580.4
37111200920000	-79.13030	39.9264	86.2	2786.2	27.7	72.7	90.7	149.6	189.3	2635.5	4515.0
37111200930000	-79.15960	39.9397	93.8	2749.0	30.8	81.1	100.2	166.1	210.4	2335.2	3972.6
37111200950000	-79.19340	39.9997	87.5	2726.7	28.8	76.2	94.1	155.0	196.6	2508.6	4323.1
37111200960000	-78.86550	40.1475	94.9	2762.1	31.1	81.9	101.0	167.2	212.0	2303.9	3965.4
37111200970000	-79.18910	39.9725	93.3	2764.8	30.5	80.4	99.1	163.3	207.3	2351.9	4051.6
37111200990000	-78.85270	40.1784	93.7	2735.3	31.0	81.4	100.6	166.6	211.1	2326.4	3951.9
37111201000000	-78.76750	40.1840	81.8	2800.2	26.0	68.4	85.6	140.1	177.4	2789.6	4894.6
37111201010000	-79.10350	40.0774	91.0	2656.6	30.9	81.6	100.5	166.8	211.4	2322.9	3944.5
37111201030000	-78.75060	40.2190	90.8	2814.5	29.1	76.3	94.7	155.6	197.3	2503.8	4302.8
37111201040000	-79.14710	39.9265	84.9	2753.6	27.6	72.3	90.3	148.5	188.0	2642.5	4557.9
37111201060000	-79.14740	39.9857	78.0	2810.3	24.5	64.3	81.2	133.3	168.3	2932.2	5211.4
37111201070000	-79.03950	40.0439	90.5	2873.7	28.4	74.1	92.5	152.7	193.2	2592.9	4402.0
37111201100000	-79.19630	39.9350	90.3	2721.3	29.9	79.3	97.3	160.6	203.9	2384.5	4139.1
37111201110000	-79.01390	40.0494	84.2	2827.9	26.6	69.6	87.3	143.6	181.6	2739.2	4751.8
37111201120000	-79.26630	39.9374	88.8	2570.1	31.1	82.1	101.0	162.4	207.3	2279.5	4092.0
37111201130000	-79.26250	40.0038	106.9	2534.7	38.6	101.7	123.7	192.8	248.6	1733.0	3575.3
37111201140000	-79.19650	39.9612	97.6	2759.7	32.1	84.8	104.0	171.6	218.0	2205.2	3983.4
37111201190000	-79.22150	39.8219	76.5	2637.1	25.6	68.1	84.6	139.2	176.3	2794.5	4932.9
37111201200000	-79.27630	39.9421	85.6	2490.5	30.7	80.9	100.1	158.9	203.2	2320.6	4200.4
37111201270000	-79.15890	39.9705	90.1	2686.8	30.2	79.7	98.3	163.1	206.7	2387.6	4054.8
37111201280000	-79.07880	40.0702	89.5	2686.5	30.0	79.2	97.7	162.2	205.5	2403.2	4081.6
37111201300000	-79.04180	40.0754	69.0	2792.6	21.5	56.4	72.0	117.6	148.2	3288.2	6091.9
37111201310000	-79.18470	40.1007	77.0	2734.1	24.9	66.1	82.3	128.2	164.2	2893.2	5403.7
37111201320000	-78.83010	39.8722	74.2	2453.3	26.6	69.1	87.2	129.2	166.9	2755.4	5324.6
37111201350000	-79.03350	39.9060	75.5	2666.4	25.0	66.2	82.6	131.3	167.3	2881.6	5275.1
37111201420000	-79.27710	39.8553	86.3	2808.7	27.5	72.9	90.1	144.6	184.4	2630.0	4700.6

37111201440000	-79.26040	39.8701	77.5	2829.2	24.2	64.0	80.2	127.7	162.6	2967.8	5454.9
37111201470000	-79.16300	39.7951	112.2	2876.4	35.9	95.1	115.0	175.0	227.1	1853.4	3824.9
37111201480000	-79.17690	40.1161	86.0	2852.9	27.0	71.4	88.4	137.8	176.8	2686.0	4964.2
37111201500000	-79.28980	40.0260	86.5	2740.2	28.3	75.2	92.5	149.9	191.0	2535.2	4503.0
37111201540000	-79.27390	40.0539	79.7	2444.2	28.9	75.5	94.4	141.1	182.4	2502.3	4820.2
37111201560000	-79.38070	39.9072	74.1	2523.1	25.8	67.5	85.0	126.6	163.4	2839.2	5449.8
37111201610000	-79.14710	39.7897	76.0	2749.0	24.4	64.3	80.6	120.8	155.8	2988.1	5748.2
37111201630000	-79.15490	40.1385	87.5	2718.5	28.9	76.8	94.3	151.0	193.0	2467.7	4465.3
37111201680000	-79.15990	39.7641	86.8	2700.2	28.8	74.9	94.2	152.8	193.7	2531.7	4401.0
37111201690000	-78.83690	40.0646	85.7	2908.7	26.4	69.5	86.5	135.2	173.2	2771.4	5080.2
37111201700000	-79.06750	40.2431	79.9	2470.7	28.7	75.9	94.1	154.2	195.7	2522.1	4350.3
37111201710000	-79.13923	39.7756	48.5	1659.3	23.8	59.3	78.3	119.6	151.8	3115.1	5914.4
37111201730000	-79.28470	39.8438	87.8	2769.7	28.4	75.3	92.9	153.0	194.2	2534.2	4392.1
37111201740000	-79.35770	39.9332	76.5	2548.4	26.5	69.2	87.0	129.3	167.1	2754.7	5317.3
37111201760000	-79.29240	39.8482	78.1	2735.6	25.3	67.1	83.5	135.9	172.5	2844.2	5073.5
37111201790000	-79.07840	40.1214	89.9	2747.8	29.4	77.4	96.0	158.9	201.2	2467.7	4189.4
37111201800000	-78.89320	40.0937	84.4	2758.4	27.3	71.9	89.6	147.7	187.0	2664.0	4587.2
37111201810000	-79.30830	39.9863	84.1	2607.6	28.8	75.6	94.0	140.9	182.3	2491.8	4826.7
37111201820000	-79.28380	40.0399	74.7	2452.1	26.8	70.1	88.1	131.9	170.2	2726.7	5205.3
37111201830000	-79.17060	39.7557	74.7	2720.3	24.2	61.3	80.5	119.9	152.7	2969.9	6029.6
37111201840000	-79.00790	40.2171	84.3	2740.5	27.5	72.1	90.1	148.0	187.4	2648.8	4576.2
37111201850000	-79.04970	40.0640	90.5	2880.4	28.3	74.0	92.4	152.3	192.7	2598.2	4417.5
37111201860000	-79.03700	40.1670	85.6	2681.6	28.6	75.4	93.5	154.7	195.8	2547.7	4332.3
37111201870000	-79.05750	40.1451	84.1	2700.5	27.8	73.2	91.1	150.4	190.4	2616.0	4485.7
37111201900000	-79.01660	40.1048	87.8	2774.9	28.4	74.5	92.8	153.2	193.9	2577.5	4383.4
37111201910000	-79.31900	39.9931	80.1	2599.9	27.4	71.6	89.6	133.5	172.6	2648.7	5127.8
37111201930000	-79.00440	40.0826	87.3	2779.8	28.2	73.9	92.1	151.9	192.2	2597.4	4431.1
37111201940000	-78.99650	40.0307	82.6	2838.9	25.9	67.9	85.2	140.2	177.2	2803.8	4894.7
37111202210000	-79.12850	40.1505	76.2	2590.8	25.9	68.9	85.7	140.6	178.1	2766.0	4874.8
37111202280000	-79.39068	39.8844	86.6	2475.0	31.3	83.1	102.2	169.0	214.5	2270.8	3920.0
37111202380000	-79.26030	39.7877	63.4	2690.5	20.2	53.4	68.3	101.9	130.9	3488.8	7011.0
37111202630000	-79.13950	39.7508	50.3	1840.7	22.4	58.9	78.6	116.2	146.2	2767.7	6931.3
37111202640000	-79.12660	39.7616	52.9	1827.6	24.0	62.2	80.7	126.2	160.0	2947.7	5551.7
37113900000000	-76.51584	41.3521	91.2	3752.7	21.9	52.0	76.2	103.1	131.3	3260.2	6993.9
37113900010000	-76.55065	41.5351	73.1	2192.1	29.2	76.8	99.1	150.8	192.8	2629.1	4473.2

37115200060000	-75.69783	41.7777	75.1	2591.1	25.5	74.5	85.1	144.1	184.8	2873.8	4716.7
37117000080000	-77.50725	41.8773	43.6	1423.4	24.3	75.0	92.7	158.0	198.4	2640.2	4210.5
37117000120000	-77.55599	41.8564	44.2	1476.8	23.9	73.6	90.6	153.6	193.4	2649.7	4369.2
37117001150000	-77.12722	41.9562	23.0	741.0	18.8	57.4	78.0	108.7	136.8	2852.0	8300.5
37117001220000	-77.19081	41.9471	32.8	1176.2	20.3	62.4	79.1	126.5	158.5	2528.5	6100.9
37117200430000	-77.51471	41.9861	59.2	1681.0	29.9	66.8	96.5	126.3	159.0	2578.5	5898.1
37117200560000	-77.29862	41.6293	98.3	3138.5	28.5	67.5	93.0	130.2	166.9	2388.5	5300.7
37117200570000	-77.54698	41.6894	116.9	4571.4	23.6	54.8	76.6	106.0	135.7	3167.5	6774.4
37117200600000	-77.44823	41.6168	81.4	2228.7	32.5	77.5	105.9	149.3	191.6	2640.9	4524.7
37117201050000	-77.30868	41.6625	59.2	1967.2	25.5	68.3	88.2	132.9	170.1	2904.9	5186.0
37117201340000	-77.35959	41.6492	74.4	2190.3	29.8	71.4	97.9	137.9	176.9	4175.0	4962.0
37117201350000	-77.55848	41.5784	58.4	1879.1	26.3	77.9	94.8	155.2	197.8	2952.1	4319.7
37117201400000	-77.52841	41.7786	82.0	2601.5	28.1	64.2	91.3	127.0	161.9	2571.9	5461.4
37117201490000	-77.49488	41.8972	46.5	1533.8	24.5	75.6	92.5	160.6	201.4	2108.8	4119.7
37117201590000	-76.99133	41.7753	53.5	1721.2	25.9	80.0	96.1	159.9	203.6	1106.2	4164.1
37117201600000	-76.95834	41.7696	56.3	2146.1	22.1	53.7	74.7	105.4	134.5	3186.0	7011.4
37117201620000	-77.14780	41.7108	68.3	2331.1	25.5	57.9	83.6	113.9	145.3	2877.2	6177.0
37117201650000	-77.23955	41.8984	53.5	1771.5	25.1	74.5	91.3	152.3	193.0	2594.7	4415.6
37117201680000	-77.23637	41.9396	65.1	1825.1	30.8	80.1	103.9	162.6	205.7	2028.4	4072.8
37121255220000	-79.55369	41.5477	45.1	1452.7	24.8	50.5	76.4	104.7	129.3	3179.6	7649.9
37121271870000	-79.60000	41.5630	46.3	1369.5	27.3	55.3	82.7	113.9	140.8	2877.5	6857.5
37121309790000	-79.95961	41.4073	58.5	1831.5	27.0	59.6	87.3	121.7	150.7	2709.1	6524.2
37121319050000	-79.99300	41.4804	53.5	1663.6	26.8	58.3	85.6	118.0	146.2	2770.9	6845.9
37121319060000	-79.98933	41.4331	57.5	1783.7	27.2	59.9	87.6	121.8	150.9	2697.5	6535.2
37121325270000	-79.99191	41.4860	54.5	1706.6	26.7	58.5	85.7	118.5	146.8	2765.7	6815.3
37121350900000	-79.53274	41.4160	65.4	2035.5	27.7	61.6	91.9	127.3	157.4	2579.8	6083.2
37121369540000	-79.85396	41.5004	53.0	1722.7	25.5	55.8	82.3	113.8	140.9	2900.5	7155.0
37121373870000	-79.80405	41.3587	60.9	1966.0	26.4	58.5	88.4	120.7	149.2	2701.9	6564.0
37121382350000	-79.85743	41.5065	53.0	1370.7	32.1	65.3	96.0	132.1	163.6	2395.8	5618.1
37121388290000	-79.85575	41.5163	53.0	1721.2	25.6	55.9	82.4	113.9	141.1	2896.0	7155.4
37121388330000	-79.79916	41.5904	54.2	1677.6	26.9	58.9	86.3	119.2	147.7	2742.5	6766.7
37121388480000	-79.92141	41.5100	53.0	1464.9	30.0	61.8	91.3	125.7	155.7	2549.0	6056.7
37121388510000	-79.85069	41.5552	56.3	1667.3	28.4	61.7	90.2	124.7	154.5	2604.3	6332.1
37121388520000	-79.86365	41.5293	52.1	1636.8	26.3	57.0	83.9	115.6	143.2	2833.5	7011.6
37121390320000	-79.85798	41.5268	50.5	1642.3	25.3	54.7	80.9	111.3	137.8	2959.9	7363.3

37121390330000	-79.85744	41.5323	55.5	1643.2	28.3	61.3	89.7	123.9	153.5	2618.3	6389.5
37121390340000	-79.86967	41.5284	54.7	1727.6	26.5	57.9	85.0	117.8	145.8	2791.0	6841.4
37121391130000	-79.84648	41.5168	55.0	1703.5	27.0	58.8	86.3	119.5	148.0	2740.5	6691.7
37121391150000	-79.83918	41.5340	54.8	1734.3	26.4	57.8	84.9	117.6	145.6	2796.8	6852.2
37121391160000	-79.85196	41.5284	52.6	1686.2	25.9	56.4	83.1	114.6	141.9	2869.7	7096.5
37121392030000	-79.86455	41.5126	52.2	1650.2	26.2	56.8	83.7	115.3	142.8	2843.2	7035.0
37121393200000	-79.84977	41.5240	54.8	1738.9	26.4	57.8	84.9	117.6	145.7	2796.3	6864.2
37121398950000	-79.78378	41.5346	56.6	1751.4	27.2	59.6	87.3	121.2	150.1	2707.8	6571.9
37121405130000	-79.52321	41.5899	59.1	1830.3	27.4	60.4	88.3	123.0	152.3	2675.1	6444.2
37121406000000	-79.86004	41.5501	50.4	1633.4	25.4	54.9	81.1	111.5	138.1	2951.1	7350.3
37121407780000	-79.83826	41.5148	54.0	1655.7	27.2	58.8	86.4	119.3	147.8	2737.0	6716.1
37121407790000	-79.83987	41.5195	51.1	1444.8	29.1	59.7	88.5	121.7	150.6	2646.6	6338.3
37121407810000	-79.85105	41.5333	53.2	1688.6	26.2	57.1	84.0	116.0	143.7	2831.1	6992.8
37121407830000	-79.83991	41.5242	52.4	1713.6	25.3	55.2	81.5	112.6	139.4	2935.0	7249.4
37121407860000	-79.85288	41.5516	53.6	1669.1	26.7	58.0	85.2	117.7	145.8	2782.0	6848.1
37121407870000	-79.84338	41.5552	52.2	1648.7	26.2	56.8	83.7	115.3	142.9	2842.1	7032.4
37121411180000	-79.86074	41.5597	51.3	1614.8	26.2	56.6	83.4	114.7	142.1	2852.6	7090.2
37121411200000	-79.84538	41.5228	54.1	1722.7	26.2	57.2	84.2	116.5	144.3	2823.9	6938.9
37121411220000	-79.87130	41.5082	54.4	1646.5	27.6	59.7	87.6	120.9	149.7	2694.5	6594.5
37121412530000	-79.85598	41.5460	52.1	1639.8	26.3	57.0	83.9	115.6	143.2	2833.7	7018.8
37121412730000	-79.86404	41.5124	51.5	1634.3	26.0	56.2	82.9	114.1	141.3	2874.7	7117.1
37121412790000	-79.83312	41.5308	55.7	1718.8	27.2	59.3	87.0	120.5	149.2	2718.5	6628.2
37121412800000	-79.84539	41.5312	55.1	1713.3	26.9	58.7	86.2	119.3	147.7	2748.0	6708.6
37121412810000	-79.82364	41.5707	53.0	1720.9	25.6	56.0	82.5	114.0	141.1	2894.3	7156.2
37121412820000	-79.85031	41.5187	55.5	1698.0	27.4	59.4	87.3	120.8	149.6	2705.9	6573.8
37121412890000	-79.85307	41.5778	53.3	1644.7	26.9	58.5	85.9	118.4	146.6	2758.3	6811.2
37121412900000	-79.85288	41.5710	52.8	1652.0	26.5	57.6	84.7	116.8	144.7	2802.7	6931.0
37121412930000	-79.82510	41.5537	53.7	1734.3	25.8	56.5	83.1	115.0	142.4	2867.6	7068.2
37121412940000	-79.83965	41.5087	54.1	1717.9	26.2	57.3	84.3	116.6	144.4	2821.7	6929.1
37121413120000	-79.86547	41.5172	53.4	1652.6	26.9	58.2	85.6	118.1	146.3	2768.3	6820.8
37121413140000	-79.83680	41.5046	55.7	1770.3	26.4	58.0	85.1	118.1	146.3	2790.2	6808.0
37121413210000	-79.76608	41.5852	55.0	1704.4	27.0	59.0	86.6	119.8	148.3	2733.8	6701.8
37121413220000	-79.83388	41.5257	55.0	1705.7	27.0	58.9	86.4	119.6	148.2	2737.9	6700.3
37121413280000	-79.85744	41.5408	53.0	1616.7	27.2	58.7	86.2	118.8	147.2	2742.7	6755.4
37121413320000	-79.84082	41.5288	54.9	1741.0	26.3	57.7	84.8	117.5	145.5	2801.6	6863.9

37121413340000	-79.85845	41.5116	53.3	1642.9	27.0	58.2	85.7	118.1	146.3	2765.1	6799.5
37121413600000	-79.80263	41.5895	53.4	1658.4	26.8	58.3	85.6	118.1	146.3	2767.2	6836.6
37121413910000	-79.84648	41.5351	53.8	1689.2	26.5	57.7	84.8	117.2	145.2	2798.2	6881.9
37121413950000	-79.86092	41.5649	51.3	1617.0	26.2	56.7	83.5	114.8	142.2	2851.9	7095.9
37121414090000	-79.86727	41.5425	51.3	1617.3	26.2	56.5	83.3	114.6	141.9	2857.8	7091.5
37121414450000	-79.84952	41.5526	53.2	1638.6	27.0	58.4	85.8	118.3	146.6	2758.6	6795.4
37121415700000	-79.86712	41.5445	51.3	1611.2	26.2	56.5	83.4	114.7	142.1	2853.9	7079.8
37121416750000	-79.85526	41.5638	54.4	1644.7	27.6	59.9	87.7	121.1	150.0	2688.3	6597.0
37121417260000	-79.79200	41.5450	52.2	1697.4	25.4	55.4	81.8	112.9	139.8	2922.1	7223.2
37121418000000	-79.84064	41.5685	53.6	1673.4	26.7	58.0	85.2	117.7	145.8	2782.3	6858.5
37121418130000	-79.83277	41.5643	50.4	1682.2	24.6	53.5	79.3	109.2	135.1	3033.4	7544.9
37121418150000	-79.86586	41.5714	52.9	1610.9	27.3	59.0	86.6	119.2	147.7	2729.4	6755.4
37121418530000	-79.85013	41.5053	54.5	1709.9	26.6	58.1	85.3	118.1	146.2	2779.2	6809.4
37121418790000	-79.85396	41.5098	54.4	1646.2	27.6	59.7	87.6	120.9	149.7	2694.2	6594.0
37121418820000	-79.86360	41.5785	48.8	1591.7	25.0	54.0	79.9	109.6	135.7	3002.7	7523.0
37121419980000	-79.84780	41.5631	50.5	1645.3	25.2	54.6	80.8	111.2	137.7	2963.6	7367.3
37121420430000	-79.87095	41.5235	53.9	1703.8	26.4	57.6	84.6	117.0	144.9	2806.9	6909.3
37121420490000	-79.87440	41.5002	52.2	1647.1	26.2	56.8	83.7	115.3	142.8	2843.0	7027.9
37121420600000	-79.79294	41.5306	43.5	1415.8	24.4	49.8	75.2	102.6	126.8	3241.6	7922.5
37121420610000	-79.79715	41.5380	54.0	1710.5	26.3	57.4	84.4	116.8	144.6	2815.2	6917.6
37121421500000	-79.80335	41.5355	51.8	1656.6	25.8	55.8	82.5	113.6	140.7	2893.0	7153.5
37121421510000	-79.82454	41.5423	54.0	1708.1	26.3	57.5	84.5	116.9	144.8	2811.0	6915.7
37121421560000	-79.78048	41.5052	56.3	1775.5	26.7	58.4	85.8	119.2	147.6	2763.8	6709.7
37121421570000	-79.77556	41.5238	54.3	1743.5	26.0	56.6	83.5	115.7	143.2	2851.6	6962.4
37121421800000	-79.78962	41.5170	55.1	1761.1	26.2	57.2	84.2	116.8	144.6	2825.1	6889.6
37121421820000	-79.76333	41.5304	53.4	1759.3	25.2	55.2	81.5	112.9	139.7	2936.2	7208.9
37121421870000	-79.79842	41.5333	52.0	1680.7	25.6	55.6	82.1	113.2	140.1	2911.0	7194.0
37121421930000	-79.80883	41.5400	52.6	1687.4	25.9	56.3	83.0	114.5	141.8	2872.5	7097.0
37121421940000	-79.80920	41.5351	52.4	1668.2	26.0	56.4	83.2	114.8	142.1	2862.3	7060.6
37121422040000	-79.81395	41.5435	54.4	1697.7	26.8	58.2	85.6	118.3	146.6	2769.8	6788.5
37121422090000	-79.78737	41.5427	53.7	1732.2	25.8	56.4	83.1	114.9	142.3	2869.7	7061.2
37121422770000	-79.78999	41.5372	55.3	1727.0	26.8	58.5	85.9	119.0	147.4	2757.6	6733.3
37121422820000	-79.78907	41.5113	55.2	1774.9	26.0	57.1	84.0	116.6	144.3	2833.1	6915.3
37121422830000	-79.77319	41.5341	52.4	1715.7	25.3	55.0	81.3	112.3	139.0	2943.8	7247.2
37121422950000	-79.78670	41.5537	52.9	1659.3	26.5	57.2	84.3	116.3	144.1	2816.7	6935.4

37121423020000	-79.78341	41.5246	54.0	1710.8	26.3	57.3	84.3	116.6	144.4	2819.5	6914.1
37121424080000	-79.86969	41.5670	49.8	1630.1	25.0	54.3	80.3	110.3	136.6	2987.5	7465.4
37121424130000	-79.82738	41.5583	54.0	1707.2	26.3	57.5	84.5	116.9	144.8	2810.3	6914.2
37121424140000	-79.81468	41.5493	54.6	1713.6	26.6	58.1	85.4	118.1	146.3	2778.5	6819.4
37121424150000	-79.84046	41.5477	53.6	1677.0	26.6	57.9	85.1	117.5	145.6	2787.6	6862.2
37121424170000	-79.79112	41.5857	53.2	1690.7	26.2	57.1	84.0	116.0	143.6	2832.1	6997.1
37121424240000	-79.78362	41.5686	53.8	1696.8	26.4	57.7	84.8	117.2	145.1	2801.0	6898.0
37121424250000	-79.78272	41.5923	53.7	1681.6	26.6	58.0	85.2	117.6	145.7	2786.3	6875.0
37121426530000	-79.59584	41.6072	55.5	1867.8	24.9	55.4	81.5	113.1	140.0	2937.7	7251.8
37121427230000	-79.72382	41.5407	51.2	1711.1	24.7	53.2	79.1	109.3	135.2	3040.6	7456.2
37121427990000	-79.66798	41.5669	48.7	1790.7	22.2	48.7	72.8	100.5	124.3	3356.8	8307.7
37121429290000	-79.56068	41.6206	53.5	1769.4	25.1	55.4	81.6	113.0	139.9	2930.4	7247.4
37121429830000	-79.55238	41.6238	47.3	1760.2	21.7	47.9	71.6	98.6	121.9	3420.4	8525.3
37121436310000	-79.77413	41.5907	49.7	1668.8	24.4	54.1	79.5	108.0	134.1	3021.2	7872.3
37121436350000	-79.85943	41.4860	50.4	1688.6	24.5	54.5	80.1	109.4	135.7	2995.3	7719.6
37121436360000	-79.79922	41.4820	55.7	1823.0	25.6	56.7	83.2	113.9	141.3	2867.2	7320.8
37121436390000	-79.95270	41.4984	49.6	1711.8	23.7	52.6	77.5	105.3	130.7	3113.9	8099.2
37121436400000	-79.79470	41.5201	54.0	1767.5	25.5	56.5	82.8	113.1	140.3	2883.4	7407.1
37121436640000	-79.97030	41.4804	51.7	1709.0	25.0	55.5	81.4	110.9	137.6	2939.2	7621.9
37121436680000	-79.85272	41.5238	52.0	1677.3	25.6	56.9	83.3	113.6	141.0	2863.2	7392.0
37121436850000	-79.67912	41.5240	55.8	1723.0	27.2	60.3	87.9	120.8	149.8	2690.9	6780.9
37121437180000	-79.96501	41.4956	50.8	1726.7	24.2	53.7	79.0	107.4	133.3	3043.4	7920.8
37121437220000	-79.97556	41.4928	50.3	1729.7	23.9	52.9	78.0	105.9	131.5	3090.6	8048.0
37121437420000	-79.85182	41.5596	51.4	1678.2	25.3	56.1	82.2	111.8	138.8	2906.4	7559.1
37121437510000	-79.80599	41.5442	52.3	1705.7	25.4	56.3	82.5	112.5	139.7	2894.4	7474.9
37121437520000	-79.74373	41.4706	54.8	1843.4	24.8	54.7	80.8	112.4	139.0	2967.1	7242.0
37121437560000	-79.94532	41.5022	51.5	1741.0	24.4	54.1	79.6	108.2	134.4	3016.9	7845.5
37121437640000	-79.85279	41.4852	54.8	1737.1	26.4	58.5	85.5	117.0	145.1	2777.6	7102.9
37121437930000	-79.61371	41.5551	57.1	1858.7	25.9	57.1	84.0	117.1	144.9	2834.4	6869.5
37123201500000	-79.36919	41.6539	97.7	2864.5	31.0	66.8	99.3	136.1	168.6	2391.4	5455.7
37123202570000	-79.34364	41.6716	53.6	1840.4	24.2	53.7	79.2	108.2	134.2	3037.7	7787.8
37123202810000	-79.37363	41.6716	54.2	1783.1	25.3	56.2	82.4	112.7	139.8	2898.7	7423.4
37123206090000	-79.06953	41.7706	88.2	2471.6	32.1	70.7	102.4	143.1	177.4	2257.4	5119.7
37123209820000	-78.96569	41.9599	43.9	1219.2	28.7	58.8	86.3	116.8	145.0	2734.3	6955.3
37123247040000	-79.55269	41.9206	45.2	1416.4	25.6	56.7	81.1	109.7	136.7	3157.7	8022.6

37123269670000	-79.39045	41.9807	45.9	1472.2	25.0	55.4	79.2	107.1	133.5	3288.0	8259.1
37123281280000	-78.96093	41.6416	15.8	637.0	10.7	30.5	47.9	64.8	80.0	5784.9	12084.7
37123284940000	-79.61120	41.7826	50.4	1635.6	25.3	56.1	81.9	110.4	137.3	2894.2	7795.2
37123284970000	-79.58700	41.7643	55.6	1651.7	28.2	62.5	90.5	122.5	152.3	2597.8	6841.6
37123284990000	-79.56825	41.7818	50.6	1651.1	25.2	55.8	81.6	110.1	136.9	2900.1	7804.4
37123291870000	-79.58279	41.7541	51.9	1666.6	25.7	57.0	83.3	112.5	139.8	2863.3	7587.3
37123299750000	-79.42531	41.9815	47.7	1488.6	26.0	57.5	81.8	110.7	138.0	3138.1	7986.7
37123303380000	-79.55521	41.6747	49.9	1746.2	23.4	51.9	76.6	103.8	128.9	3157.2	8250.5
37123306010000	-79.34584	41.9715	46.2	1449.9	25.6	56.8	81.2	109.8	136.8	3153.9	8015.7
37123313570000	-79.59946	41.7478	64.7	1676.1	33.3	73.7	105.3	143.2	178.0	2184.3	5502.5
37123321070000	-79.52736	41.8104	45.9	1623.4	22.7	50.3	74.2	99.8	124.1	3535.4	8693.8
37123321340000	-79.56295	41.8246	45.4	1531.6	23.8	52.7	77.1	103.9	129.3	3338.4	8372.6
37123322040000	-79.54805	41.8175	45.2	1565.5	23.1	51.3	75.4	101.4	126.2	3462.1	8566.9
37123322320000	-79.59001	41.8000	45.3	1574.6	23.1	51.1	75.2	101.2	125.9	3469.5	8579.8
37123332340000	-79.57909	41.8221	50.9	1577.3	26.6	58.9	85.2	115.1	143.1	2725.7	7467.8
37123332350000	-79.51907	41.8011	53.3	1649.0	26.9	59.6	86.6	116.9	145.4	2608.4	7272.0
37123332380000	-79.57173	41.7903	51.7	1596.2	26.7	59.3	86.1	116.3	144.6	2639.8	7328.0
37123333610000	-79.52542	41.8246	51.6	1591.1	26.8	59.3	85.9	116.1	144.4	2672.4	7370.4
37123339490000	-79.52104	41.6496	58.8	1801.7	27.6	61.2	89.0	121.5	150.8	2649.3	6797.9
37123339500000	-79.54533	41.6902	55.8	1721.5	27.2	60.2	87.6	119.1	147.9	2699.2	7021.5
37123339510000	-79.56383	41.7164	55.0	1702.3	27.0	59.9	87.1	118.2	146.9	2715.2	7113.4
37123339560000	-79.39677	41.8538	48.3	1488.3	26.4	58.6	85.1	114.9	142.9	2707.2	7451.2
37123343250000	-79.07321	41.9524	54.4	1694.7	26.8	59.3	86.2	116.4	144.7	2628.5	7305.0
37123377340000	-79.46350	41.7021	55.3	1685.8	27.5	60.9	88.6	120.9	150.2	2664.5	6844.2
37123377350000	-79.46913	41.6976	53.4	1757.5	25.2	55.9	82.0	111.6	138.6	2914.5	7561.2
37123377570000	-79.52841	41.7657	52.2	1641.7	26.3	58.3	85.0	115.0	142.9	2795.8	7384.7
37123380100000	-79.60091	41.7149	54.0	1709.6	26.3	58.0	85.0	117.3	145.4	2794.7	6948.3
37123380390000	-79.61250	41.7528	53.4	1656.9	26.8	59.4	86.4	116.8	145.2	2740.6	7259.3
37123380410000	-79.59918	41.7573	53.4	1650.2	26.9	59.6	86.6	117.1	145.6	2733.1	7237.3
37123380420000	-79.60393	41.7527	53.2	1636.2	27.0	59.9	87.1	117.8	146.4	2717.4	7187.2
37123380430000	-79.58253	41.7600	53.6	1660.6	26.9	59.5	86.6	117.2	145.6	2733.3	7230.6
37123380890000	-79.53848	41.7586	52.1	1640.7	26.3	58.3	85.0	115.0	143.0	2794.7	7380.9
37123381450000	-79.60439	41.7081	51.5	1683.1	25.2	55.5	81.7	112.4	139.3	2928.3	7330.9
37123381560000	-79.59641	41.6490	52.0	1730.7	24.8	54.5	80.4	111.1	137.6	2980.7	7395.6
37123381820000	-79.60568	41.7180	54.1	1723.3	26.2	57.8	84.7	116.9	144.9	2807.1	6982.9

37123382230000	-79.59927	41.7221	52.3	1708.4	25.3	55.9	82.2	113.3	140.3	2906.5	7279.2
37123383170000	-79.54789	41.6772	53.3	1753.5	25.3	56.0	82.0	111.3	138.3	2913.6	7613.9
37123383550000	-79.53148	41.6739	56.6	1745.6	27.3	60.4	87.9	119.6	148.6	2689.6	6960.0
37123384520000	-79.58755	41.7444	52.6	1631.6	26.7	59.3	86.3	116.8	145.1	2747.3	7249.3
37123384610000	-79.57459	41.6426	53.0	1721.5	25.6	56.1	82.6	114.1	141.4	2888.4	7162.7
37123384630000	-79.54625	41.7546	50.5	1638.9	25.3	56.1	82.1	110.9	137.9	2911.2	7704.4
37123385070000	-79.60520	41.6601	50.6	1652.3	25.2	55.9	81.9	111.3	138.2	2919.1	7615.5
37123385720000	-79.60898	41.7357	51.1	1643.8	25.6	55.9	82.3	113.1	140.2	2901.3	7264.2
37123385880000	-79.56526	41.6359	53.9	1761.4	25.5	56.3	82.8	114.5	141.8	2883.1	7137.7
37123387260000	-79.55882	41.8488	45.5	1485.6	24.5	54.4	79.0	106.6	132.7	3234.2	8186.0
37123387530000	-79.54062	41.6650	51.1	1759.3	24.0	53.1	78.2	106.1	131.7	3082.0	8041.5
37123389010000	-79.51172	41.7198	55.3	1726.1	26.8	59.4	86.5	117.5	145.9	2738.8	7144.9
37123389020000	-79.55185	41.8244	50.2	1560.9	26.4	58.5	84.7	114.4	142.3	2748.4	7514.5
37123391140000	-79.55951	41.6798	54.9	1694.1	27.1	60.1	87.5	119.0	147.8	2703.6	7026.3
37123392160000	-79.58953	41.9582	79.0	1409.7	49.7	109.9	148.8	203.5	252.8	1437.6	3355.2
37123392200000	-79.48728	41.7441	55.8	1726.1	27.1	60.1	87.4	118.8	147.5	2704.9	7053.0
37123392210000	-79.11041	41.6545	50.0	1649.0	24.9	54.7	80.6	110.7	137.2	2972.7	7515.8
37123394040000	-79.60751	41.7267	54.2	1674.0	27.0	59.8	87.0	117.8	146.4	2720.9	7155.3
37123394570000	-79.59040	41.6765	50.4	1631.0	25.4	56.3	82.4	111.9	139.0	2896.5	7579.3
37123394610000	-79.58447	41.7355	52.4	1616.7	26.9	59.6	86.7	117.5	146.0	2730.0	7186.0
37123395050000	-79.59597	41.7137	45.8	1720.9	21.4	47.3	70.5	94.9	117.9	3759.5	9072.0
37123395060000	-79.49239	41.7065	55.8	1720.9	27.2	59.7	87.3	120.9	149.8	2707.8	6632.6
37123395130000	-79.58044	41.6314	52.1	1692.6	25.5	55.8	82.2	113.4	140.4	2905.3	7225.8
37123395650000	-79.61031	41.6710	55.1	1711.2	26.9	59.2	86.7	119.9	148.6	2730.3	6723.3
37123395870000	-79.50257	41.7778	50.7	1663.9	25.1	55.6	81.4	109.9	136.6	2940.6	7792.7
37123396260000	-79.55747	41.7695	48.9	1595.0	25.0	55.5	81.2	109.6	136.3	2947.0	7827.1
37123396430000	-79.59278	41.6974	54.0	1714.2	26.3	57.9	84.8	117.2	145.2	2800.2	6950.5
37123396450000	-79.58688	41.6662	50.9	1681.0	24.9	55.3	81.1	110.1	136.7	2952.1	7715.1
37123396460000	-79.59464	41.6691	50.5	1640.7	25.3	56.1	82.2	111.6	138.6	2906.9	7597.7
37123396520000	-79.59627	41.7619	53.5	1666.0	26.7	59.2	86.2	116.4	144.7	2751.0	7294.4
37123396560000	-79.60543	41.7426	52.9	1660.2	26.5	58.6	85.4	115.5	143.6	2779.6	7349.2
37123396570000	-79.61031	41.6657	55.8	1726.4	27.1	59.7	87.3	120.9	149.8	2708.3	6648.7
37123396580000	-79.60384	41.6982	45.1	1655.4	21.8	48.3	71.9	96.9	120.4	3624.7	8881.9
37123396680000	-79.55775	41.7429	50.4	1628.5	25.4	56.3	82.4	111.4	138.5	2898.8	7662.2
37123396740000	-79.57494	41.6845	44.7	1622.5	22.0	48.9	72.6	98.1	121.8	3529.6	8769.5

37123396780000	-79.52766	41.7409	44.7	1619.7	22.0	48.9	72.6	97.9	121.6	3580.2	8809.6
37123397220000	-79.54680	41.7590	50.6	1656.0	25.2	55.7	81.6	110.2	137.0	2931.2	7763.2
37123397340000	-79.54401	41.7294	49.3	1631.9	24.7	54.7	80.3	108.7	135.0	2985.7	7875.2
37123397390000	-79.60502	41.7221	50.9	1678.2	25.0	54.9	80.9	111.3	137.9	2961.8	7440.2
37123397440000	-79.09650	41.6299	16.8	627.9	12.4	35.4	54.4	73.9	91.4	5099.8	11399.5
37123397480000	-79.52235	41.7451	50.1	1604.5	25.6	56.8	83.1	112.5	139.8	2869.7	7560.6
37123397840000	-79.59743	41.7061	51.8	1713.9	25.0	55.0	81.1	111.8	138.4	2953.5	7389.2
37123397890000	-79.59241	41.6842	45.2	1668.5	21.7	48.1	71.6	96.7	120.1	3623.6	8894.2
37123397990000	-79.59654	41.8020	51.0	1584.7	26.5	58.7	85.1	115.0	143.0	2717.4	7452.3
37123398220000	-79.56586	41.7664	53.2	1639.5	27.0	59.8	87.0	117.6	146.2	2721.0	7195.1
37123398240000	-79.56623	41.7712	53.3	1646.2	26.9	59.6	86.8	117.3	145.8	2728.8	7226.1
37123398260000	-79.56841	41.7199	44.8	1631.0	22.0	48.7	72.4	97.5	121.2	3602.6	8840.1
37123398580000	-79.58337	41.6404	52.6	1738.3	25.1	55.6	81.6	111.0	137.8	2932.9	7622.1
37123398590000	-79.59011	41.7389	45.2	1667.3	21.7	48.1	71.6	96.3	119.7	3694.4	8963.7
37123398620000	-79.52599	41.6718	51.7	1756.6	24.3	53.6	79.2	109.3	135.3	3037.4	7569.2
37123398640000	-79.55724	41.7554	50.9	1678.8	25.0	54.9	80.9	111.3	137.9	2961.2	7443.0
37123398650000	-79.61189	41.6985	50.8	1672.7	25.0	55.4	81.2	110.0	136.7	2946.2	7747.6
37123398850000	-79.59025	41.6721	49.8	1631.3	25.0	55.6	81.4	110.6	137.3	2938.0	7687.0
37123398880000	-79.59854	41.7427	45.0	1647.4	21.9	48.4	72.0	96.8	120.3	3669.8	8922.3
37123399200000	-79.61009	41.6782	52.2	1644.1	26.3	56.8	83.7	115.3	142.8	2842.4	7021.2
37123399230000	-79.58553	41.8258	49.2	1524.3	26.4	58.5	84.6	114.3	142.2	2759.2	7537.7
37123399240000	-79.56033	41.6722	57.3	1767.5	27.4	60.4	88.2	122.3	151.5	2678.3	6544.7
37123399250000	-79.59669	41.6542	55.4	1684.0	27.5	60.0	87.9	121.6	150.6	2683.2	6563.7
37123399590000	-79.54350	41.8119	50.9	1580.4	26.5	58.8	85.4	115.3	143.4	2696.9	7421.2
37123399860000	-79.51127	41.6641	53.4	1764.8	25.2	55.5	81.7	113.1	140.1	2924.9	7247.6
37123400010000	-79.59323	41.7458	50.9	1677.9	25.0	54.9	80.9	111.3	137.9	2959.7	7443.7
37123400230000	-79.56437	41.6892	45.8	1720.9	21.4	47.1	70.5	96.6	119.6	3485.6	8737.3
37123400250000	-79.59342	41.8108	49.4	1536.2	26.3	58.2	84.4	114.0	141.8	2761.0	7541.5
37123400270000	-79.60607	41.8059	50.0	1549.0	26.5	58.8	85.1	115.0	143.0	2723.9	7467.5
37123400300000	-79.57006	41.7419	51.9	1615.7	26.5	58.9	85.8	116.1	144.3	2766.4	7294.3
37123400330000	-79.56548	41.7376	52.0	1624.9	26.5	58.7	85.5	115.8	143.9	2776.2	7316.2
37123400450000	-79.59193	41.6329	50.9	1680.4	24.9	54.5	80.5	110.8	137.3	2977.9	7433.1
37123400770000	-79.52253	41.7379	49.1	1614.2	24.8	55.1	80.8	109.4	135.9	2964.6	7811.1
37123400860000	-79.56046	41.7381	50.6	1648.1	25.2	55.9	81.9	110.7	137.6	2920.8	7717.0
37123400900000	-79.55074	41.6628	54.1	1781.6	25.3	56.0	82.4	113.9	141.1	2900.0	7195.1

37123400940000	-79.59120	41.6481	57.4	1773.3	27.3	60.2	88.0	122.1	151.3	2684.3	6547.6
37123400970000	-79.59104	41.8257	46.3	1513.0	24.7	54.7	79.6	107.4	133.6	3143.9	8096.3
37123401000000	-79.58619	41.6513	56.6	1752.0	27.2	60.0	87.6	121.5	150.5	2697.3	6602.2
37123401030000	-79.58667	41.7495	53.5	1667.9	26.7	59.2	86.1	116.6	144.9	2751.3	7267.3
37123401050000	-79.56890	41.6716	56.0	1739.8	27.0	59.5	87.0	120.5	149.3	2718.7	6687.6
37123401110000	-79.59418	41.7508	51.2	1659.0	25.5	56.4	82.5	111.4	138.5	2894.7	7675.9
37123401300000	-79.59567	41.6930	51.6	1696.2	25.1	55.7	81.6	110.6	137.4	2931.1	7695.2
37123401390000	-79.54304	41.7830	52.5	1619.7	26.9	59.5	86.6	117.0	145.4	2736.3	7255.0
37123401980000	-79.60974	41.7045	55.1	1712.7	26.9	59.4	86.8	120.0	148.7	2727.1	6741.3
37123402690000	-79.58809	41.6428	52.6	1737.4	25.1	55.2	81.4	112.5	139.3	2939.9	7300.0
37123402740000	-79.60126	41.6453	56.0	1742.9	27.0	59.4	86.9	120.4	149.1	2724.4	6673.5
37123403040000	-79.55742	41.7254	51.1	1695.3	24.8	54.7	80.6	110.9	137.4	2975.9	7475.2
37123403150000	-79.56071	41.7213	50.9	1677.3	25.0	54.9	80.9	111.3	137.9	2960.6	7439.1
37123403160000	-79.55375	41.7213	55.2	1716.3	26.9	59.3	86.7	119.8	148.5	2730.1	6750.9
37123403270000	-79.59907	41.8276	47.2	1540.5	24.8	54.9	79.8	107.7	134.0	3132.6	8071.7
37123404570000	-79.61157	41.7919	51.6	1585.3	26.8	59.5	86.2	116.5	144.9	2647.8	7331.7
37123404620000	-79.60322	41.7678	50.7	1657.8	25.1	55.7	81.5	109.8	136.5	2910.7	7823.9
37123404770000	-79.60993	41.8222	49.5	1549.9	26.1	57.9	83.8	113.2	140.8	2806.9	7631.3
37123404850000	-79.61103	41.8266	49.3	1530.1	26.3	58.4	84.3	113.9	141.7	2780.8	7581.7
37123404860000	-79.55054	41.6586	57.4	1769.7	27.3	60.3	88.1	122.2	151.4	2680.4	6547.2
37123404890000	-79.60632	41.8267	50.9	1575.8	26.6	58.9	85.0	114.9	142.9	2743.1	7501.8
37123405140000	-79.58087	41.7306	51.9	1621.8	26.5	58.7	85.6	115.9	144.1	2772.6	7302.2
37123405300000	-79.58311	41.8078	50.9	1573.1	26.6	59.0	85.5	115.5	143.6	2697.7	7418.5
37123405370000	-79.57136	41.7757	53.5	1661.8	26.8	59.3	86.3	116.5	144.9	2746.7	7289.4
37123405470000	-79.60828	41.8304	50.8	1565.8	26.7	59.1	85.2	115.2	143.4	2732.9	7482.2
37123405550000	-79.61085	41.8345	50.9	1574.6	26.6	58.9	84.9	114.8	142.8	2753.4	7524.4
37123405740000	-79.60369	41.8182	49.2	1519.1	26.4	58.6	84.8	114.6	142.5	2747.9	7516.1
37123405910000	-79.56730	41.8009	51.0	1581.0	26.5	58.8	85.4	115.4	143.5	2689.4	7410.9
37123406490000	-79.56073	41.7876	52.4	1614.5	26.9	59.6	86.6	117.0	145.5	2598.8	7263.0
37123406500000	-79.56495	41.7900	51.7	1595.9	26.7	59.3	86.2	116.4	144.7	2634.1	7320.3
37123406530000	-79.50494	41.6738	57.5	1781.6	27.2	60.0	87.8	121.9	151.0	2692.6	6556.1
37123406630000	-79.59508	41.8377	50.1	1555.1	26.4	58.6	84.5	114.2	142.1	2774.6	7567.5
37123406980000	-79.61121	41.8180	49.4	1537.1	26.3	58.2	84.2	113.8	141.5	2780.9	7579.4
37123407310000	-79.47447	41.8057	50.1	1656.0	24.8	54.9	80.5	108.5	134.9	2971.9	7937.2
37123407640000	-79.53330	41.8094	50.3	1624.9	25.4	56.3	82.1	110.8	137.8	2879.7	7766.1

37123408410000	-79.52473	41.7339	52.5	1626.1	26.8	59.4	86.5	117.4	145.8	2738.7	7177.3
37123408610000	-79.46520	41.7453	55.8	1726.1	27.1	59.6	87.2	120.8	149.7	2710.4	6643.2
37123408780000	-79.48594	41.8147	50.0	1543.2	26.6	58.9	85.6	115.6	143.8	2672.8	7388.2
37123409320000	-79.57097	41.7252	53.3	1648.4	26.9	59.6	86.8	117.7	146.2	2727.8	7163.7
37123409790000	-79.57553	41.6958	52.6	1631.6	26.7	59.3	86.4	117.3	145.7	2743.6	7171.2
37123410250000	-79.53496	41.7087	55.0	1700.5	27.1	59.6	87.1	120.3	149.1	2716.8	6713.9
37123410300000	-79.50339	41.6648	55.9	1738.0	27.0	59.4	87.0	120.5	149.3	2720.5	6662.5
37123410400000	-79.48342	41.7227	55.0	1699.6	27.1	59.3	86.8	120.0	148.7	2725.0	6699.2
37123410520000	-79.59824	41.6984	55.0	1696.8	27.1	60.0	87.3	118.6	147.3	2708.4	7075.1
37123410560000	-79.60428	41.7037	54.2	1678.5	26.9	59.7	86.9	117.9	146.5	2724.0	7130.2
37123410600000	-79.55706	41.7509	50.3	1676.4	24.6	54.6	80.1	108.2	134.4	2995.9	7929.5
37123410660000	-79.59678	41.7359	50.1	1656.3	24.8	55.0	80.6	108.9	135.4	2972.7	7864.8
37123410670000	-79.59000	41.7345	49.3	1637.7	24.6	54.6	80.1	108.3	134.6	2993.7	7917.5
37123410680000	-79.42286	41.7577	55.0	1696.2	27.1	60.1	87.4	118.9	147.7	2705.7	7029.1
37123411130000	-79.47916	41.7890	53.5	1663.9	26.8	59.2	86.2	116.6	144.9	2748.0	7275.2
37123411140000	-79.47891	41.7958	49.9	1638.9	25.0	55.3	81.0	109.2	135.8	2955.9	7865.1
37123411500000	-79.52221	41.8536	83.3	2579.8	28.8	63.6	90.9	123.1	153.2	2469.2	6889.1
37123411520000	-79.59982	41.8748	49.0	1553.3	25.7	56.9	81.8	110.6	137.8	3075.7	7902.0
37123411740000	-79.52952	41.7867	53.3	1645.0	26.9	59.7	86.8	117.3	145.8	2727.9	7229.3
37123412230000	-79.50940	41.8657	48.0	1560.6	25.0	55.3	80.0	108.1	134.5	3153.8	8065.5
37123412490000	-79.50943	41.8511	51.0	1582.8	26.5	58.7	84.8	114.6	142.6	2754.8	7524.4
37123412500000	-79.51688	41.8506	47.2	1589.5	24.0	53.1	77.5	104.4	130.0	3336.9	8346.6
37123412510000	-79.48033	41.6690	53.0	1778.8	24.7	54.8	80.6	109.7	136.2	2975.5	7704.1
37123412840000	-79.56526	41.6262	56.6	1749.2	27.2	60.3	87.8	119.9	148.9	2690.9	6910.7
37123412900000	-79.58670	41.7308	49.4	1640.7	24.6	54.6	80.1	108.2	134.5	2997.3	7920.5
37123413680000	-79.52596	41.8361	51.2	1552.3	27.2	60.2	86.9	117.5	146.2	2628.8	7285.2
37123419860000	-79.19108	41.8692	51.1	1701.1	24.8	54.2	80.1	110.4	136.7	2996.8	7464.2
37123420330000	-79.24358	41.8749	49.1	1616.7	24.8	55.0	80.7	108.9	135.4	2970.6	7873.6
37123420460000	-79.20705	41.8685	56.6	1645.9	29.0	64.2	92.9	126.3	156.9	2524.0	6523.8
37123420550000	-79.18998	41.8735	50.9	1684.6	24.9	55.2	80.9	109.6	136.1	2960.1	7790.3
37123424440000	-79.12267	41.6275	17.6	677.9	12.7	36.2	55.6	75.7	93.7	4966.0	11265.5
37123424450000	-79.12571	41.6270	16.3	669.6	11.0	31.4	49.2	66.4	82.0	5660.8	11960.5
37123424460000	-79.12816	41.6282	19.7	669.6	15.9	45.6	68.0	93.7	115.9	3640.7	9794.9
37123425140000	-79.12777	41.6268	20.8	632.2	18.6	53.0	77.7	107.6	133.3	3097.3	8599.5
37123425150000	-79.12981	41.6269	20.8	634.0	18.6	53.0	77.7	107.6	133.3	3097.6	8602.4

37123425170000	-79.13091	41.6283	23.2	607.5	23.3	66.1	95.0	132.5	164.3	2492.7	6748.6
37123425580000	-79.11603	41.8327	21.5	610.2	20.6	58.8	85.8	117.4	145.6	2780.5	7969.6
37123425870000	-79.19941	41.7944	21.3	611.1	20.1	57.4	83.9	114.9	142.5	2848.0	8133.6
37123425890000	-79.19179	41.7944	19.9	610.8	17.8	50.9	75.3	102.7	127.4	3210.1	9096.0
37123429270000	-79.20131	41.9476	45.7	1607.8	22.8	50.6	74.6	100.3	124.7	3509.6	8649.4
37123429350000	-79.58427	41.8675	48.9	1547.2	25.8	57.1	82.2	111.1	138.3	3024.8	7855.1
37123429930000	-79.41434	41.9593	47.1	1481.0	25.7	56.9	81.4	110.1	137.1	3142.1	7994.0
37123429940000	-79.42972	41.9545	48.4	1505.1	26.2	58.0	82.8	112.1	139.6	3057.4	7836.7
37123430820000	-79.60035	41.8711	45.6	1544.4	23.7	52.4	75.9	102.5	127.6	3462.2	8567.1
37123431140000	-79.22680	41.9204	47.8	1597.5	24.3	53.8	79.0	106.4	132.3	3112.5	8120.9
37123431330000	-79.21282	41.9313	45.4	1635.9	22.3	49.3	73.1	98.1	122.1	3613.1	8826.6
37123433400000	-79.04610	41.6258	17.1	613.3	13.3	37.6	57.3	78.3	96.8	4772.5	11072.3
37123433410000	-79.04425	41.6272	17.8	602.0	14.6	41.7	62.8	86.2	106.7	4178.3	10426.6
37123433420000	-79.04608	41.6272	17.7	612.0	14.2	40.2	60.7	83.2	102.9	4403.6	10676.2
37123433450000	-79.04421	41.6299	19.1	613.3	16.5	46.6	69.2	95.5	118.2	3531.4	9590.1
37123433640000	-79.41983	41.9069	43.5	1456.9	23.7	52.5	76.3	102.9	128.1	3429.7	8510.3
37123433650000	-79.42383	41.9102	41.0	1435.9	22.3	49.4	72.3	97.4	121.3	3711.7	8992.5
37123433800000	-79.46792	41.9106	47.2	1541.4	24.8	54.8	79.1	106.9	133.1	3255.1	8199.9
37123433810000	-79.42879	41.9222	45.0	1445.1	24.9	55.2	79.7	107.6	134.0	3224.5	8144.6
37123434400000	-79.51125	41.6352	56.4	1786.7	26.5	58.8	85.8	117.2	145.5	2762.9	7103.6
37123434430000	-79.51106	41.6492	54.7	1781.3	25.7	56.8	83.2	113.4	140.8	2864.3	7410.3
37123434470000	-79.50764	41.6390	55.1	1762.0	26.1	58.0	84.7	115.6	143.5	2806.6	7230.3
37123434490000	-79.50461	41.6349	55.5	1809.0	25.7	57.0	83.4	113.8	141.3	2856.2	7362.4
37123434510000	-79.42658	41.8968	43.5	1458.5	23.6	52.4	76.4	103.0	128.2	3421.2	8495.6
37123434660000	-79.50153	41.6541	52.0	1792.2	24.0	53.0	78.4	108.4	134.2	3073.6	7622.1
37123435110000	-79.51644	41.6382	53.2	1742.2	25.4	56.3	82.4	112.4	139.5	2896.6	7493.1
37125200650000	-80.31710	40.4099	60.7	2004.1	25.8	66.6	82.7	115.0	145.2	3721.8	9009.4
37125200700000	-80.14310	40.0981	87.4	2478.9	31.6	83.2	103.2	169.3	214.8	2301.3	3901.9
37125200820000	-80.16110	40.1135	93.9	2332.6	36.4	96.3	118.0	194.4	247.2	1942.0	3372.7
37125201700000	-79.93132	40.0926	66.9	2082.7	27.8	71.5	91.0	142.2	181.2	2666.0	4796.9
37125201730000	-79.94670	40.1056	88.4	2590.5	30.7	80.9	99.7	155.9	200.2	2313.0	4301.9
37125211470000	-80.35050	40.0789	27.9	928.4	20.3	46.5	66.3	93.0	118.0	3659.7	8323.0
37125214460000	-80.33330	40.2500	68.0	1836.1	32.1	85.2	109.4	166.2	211.0	2162.0	3989.2
37125214600000	-80.28330	40.2500	71.5	2094.6	29.8	77.4	100.4	151.3	192.0	2369.7	4453.2
37125216920000	-80.01340	40.0678	46.9	1418.5	26.7	63.9	85.0	128.0	162.8	2909.5	5445.2

37125218920000	-80.38377	40.1861	23.7	826.6	17.7	40.8	60.4	82.3	103.0	4346.2	9877.1
37125218940000	-80.37724	40.1703	23.2	798.0	17.8	40.7	60.3	82.0	102.7	4368.1	9866.1
37125219440000	-80.43992	40.1633	24.6	779.7	20.1	48.1	64.8	90.4	113.9	3864.9	9274.8
37125220210000	-80.07790	40.1152	24.0	853.4	17.6	39.5	56.3	81.7	102.9	4385.5	9663.9
37125220220000	-80.08169	40.1168	42.3	1268.6	26.3	63.2	84.4	126.8	161.2	2898.5	5508.2
37125220230000	-80.07959	40.1202	42.9	1222.6	27.7	66.0	88.1	132.2	168.2	2780.3	5238.0
37125220240000	-80.08504	40.1157	35.1	1269.2	20.6	49.5	67.9	100.9	127.7	3438.8	7556.4
37125220920000	-80.32513	40.0088	56.2	1656.6	28.5	74.0	97.3	143.5	183.4	2486.6	4738.4
37125222610000	-80.31460	40.2729	75.8	2083.0	32.1	83.8	107.6	162.5	207.1	2215.4	4095.3
37125230270000	-80.01550	40.0016	48.7	1793.4	22.1	54.8	72.9	105.5	135.2	3388.2	6762.4
37125230280000	-80.01110	40.0040	46.9	1775.5	21.3	52.7	70.5	102.0	130.5	3510.4	7045.8
37125231540000	-79.98080	40.0794	48.1	1789.8	21.9	54.3	72.3	106.8	136.3	3410.8	6713.3
37125231660000	-79.94780	40.0945	46.5	1737.1	21.6	53.1	71.1	102.8	131.6	3485.8	6976.7
37125232080000	-79.99260	40.0850	50.9	1733.4	24.2	59.8	78.9	119.0	151.6	3117.6	5928.4
37125232630000	-80.01060	40.1014	53.1	1680.1	26.3	64.9	85.2	129.5	164.9	2883.5	5364.6
37127200050000	-75.18076	41.6821	92.9	3726.2	22.5	57.0	74.3	112.1	140.9	3249.6	7162.4
37129200340000	-79.67560	40.1433	86.3	2439.9	31.7	82.7	102.7	153.8	199.1	2243.2	4375.3
37129201000000	-79.39988	40.2023	84.0	2274.1	33.0	86.6	107.2	173.6	221.0	2164.6	3822.2
37129201390000	-79.44210	40.1601	90.9	2375.0	34.5	90.0	111.2	173.9	223.3	2034.8	3987.7
37129201860000	-79.26240	40.1201	80.0	2412.5	29.4	76.9	96.0	145.5	187.5	2455.4	4658.8
37129202800000	-79.18990	40.1168	83.6	2539.0	29.4	77.3	95.9	146.7	189.0	2440.5	4616.0
37129202870000	-79.07780	40.2711	84.6	2346.1	32.2	84.1	104.5	166.5	212.5	2215.8	3993.0
37129202910000	-79.35126	40.2993	34.4	1211.9	21.0	48.4	66.9	98.6	124.9	3746.8	7428.6
37129203030000	-79.37080	40.2471	83.9	2261.3	33.1	86.0	107.1	166.9	214.0	2154.6	4002.5
37129203130000	-79.31500	40.2567	84.6	2428.7	31.1	81.1	101.0	150.8	195.1	2295.1	4474.3
37129203160000	-79.47180	40.1676	91.9	2437.8	34.0	89.3	109.9	177.5	226.4	2061.6	4010.9
37129203220000	-79.31124	40.4166	95.8	2358.9	36.8	96.9	118.6	194.6	247.8	1885.6	3705.6
37129203360000	-79.32160	40.4033	84.4	2407.6	31.3	82.3	101.9	164.2	209.2	2280.6	4033.4
37129203370000	-79.30230	40.4242	65.5	2255.5	25.1	65.2	83.1	130.9	166.4	2899.3	5303.7
37129203450000	-79.32130	40.3972	80.5	2486.0	28.8	75.8	94.2	152.3	193.7	2511.8	4419.0
37129203570000	-79.30220	40.4312	86.8	2347.3	33.1	86.8	107.4	172.5	220.0	2140.5	3934.1
37129203590000	-79.30760	40.4244	76.9	2331.4	29.1	76.2	95.4	152.2	193.9	2492.5	4420.6
37129203640000	-79.42990	40.3377	88.5	2358.5	33.7	88.3	109.1	175.4	223.8	2094.0	3956.7
37129203680000	-79.66740	40.4568	73.4	2261.0	28.5	74.8	94.2	148.6	189.4	2485.4	4552.7
37129203720000	-79.33500	40.4021	88.6	2445.4	32.5	85.7	105.6	171.2	218.1	2173.0	4004.8

37129203790000	-79.20450	40.4012	81.2	2267.7	31.8	81.6	102.6	150.8	195.4	2261.3	4473.8
37129203800000	-79.25180	40.3362	83.5	2202.5	33.8	86.5	108.5	159.9	207.3	2109.8	4189.6
37129203820000	-79.11320	40.2128	68.7	2162.0	27.6	71.4	90.6	142.3	181.3	2673.1	4793.9
37129203880000	-79.51700	40.2697	88.7	2546.9	31.3	83.0	101.9	167.4	212.9	2264.0	3950.5
37129203960000	-79.44800	40.3182	85.9	2380.2	32.3	84.7	104.9	168.7	215.1	2201.6	3977.7
37129204000000	-79.41830	40.3467	76.8	2345.7	28.9	75.6	94.6	151.2	192.5	2515.4	4458.7
37129204050000	-79.45770	40.3092	82.0	2298.2	31.8	83.0	103.2	165.4	210.8	2261.9	3997.4
37129204080000	-79.43680	40.3292	77.0	2379.0	28.6	74.9	93.7	149.9	190.8	2541.8	4505.6
37129204160000	-79.46660	40.3022	90.7	2430.8	33.6	88.5	108.8	176.4	224.9	2091.6	3948.0
37129204210000	-79.23460	40.1122	85.0	2572.5	29.5	77.6	96.3	144.8	187.2	2422.0	4683.0
37129204220000	-79.58760	40.5242	75.9	2228.1	30.0	79.1	99.1	156.5	199.7	2369.4	4277.5
37129204370000	-79.22836	40.1249	90.3	2542.6	32.0	85.0	104.1	172.7	219.2	2212.7	3828.9
37129204380000	-79.69970	40.4161	80.9	2377.4	30.2	79.0	99.2	156.9	200.1	2383.4	4262.1
37129204720000	-79.56030	40.3755	18.0	670.6	13.5	28.8	43.1	61.2	76.5	6259.7	12587.4
37129204730000	-79.68589	40.4469	86.6	2253.1	34.5	90.0	113.9	174.2	223.1	2108.3	3615.5
37129205080000	-79.66880	40.1540	76.7	2331.4	29.0	75.3	94.7	141.2	182.3	2505.6	4820.3
37129205320000	-79.69950	40.4046	86.8	2514.6	31.0	80.1	100.9	158.4	202.2	2352.6	4215.1
37129207250000	-79.08910	40.2462	83.0	2439.9	30.3	79.7	98.9	159.3	202.9	2366.7	4182.7
37129208060000	-79.65920	40.1677	68.5	2279.3	26.1	67.7	86.0	130.9	167.9	2816.6	5270.6
37129214770000	-79.21280	40.1606	86.5	2470.4	31.4	82.4	101.9	158.6	203.7	2265.8	4216.4
37129215570000	-79.09470	40.2792	86.0	2558.2	30.1	79.5	98.2	158.6	202.1	2370.2	4206.3
37129216820000	-79.41016	40.3544	77.9	2269.9	30.3	79.6	99.3	160.2	203.7	2386.9	4153.5
37129217210000	-79.74905	40.3474	37.1	1248.8	22.5	55.3	77.0	108.8	138.4	3072.0	6934.8
37129217890000	-79.41620	40.3349	81.3	2514.9	28.7	75.9	94.2	153.0	194.5	2512.2	4395.1
37129218830000	-79.40310	40.3654	81.3	2277.5	31.7	82.8	103.1	164.7	210.0	2267.9	4020.7
37129220810000	-79.27870	40.0747	95.2	2432.0	35.4	92.5	113.9	172.5	223.2	1953.1	3896.3
37129221590000	-79.49119	40.4138	36.3	1233.8	22.2	52.8	72.0	107.2	135.8	3361.1	6856.2
37129222390000	-79.49253	40.4027	34.3	1207.3	21.0	49.6	68.3	101.2	128.1	3447.1	7425.6
37129223120000	-79.49460	40.4073	33.8	1211.6	20.5	48.6	67.0	99.2	125.5	3494.8	7663.6
37129223450000	-79.48885	40.4036	32.0	1241.8	18.5	44.1	61.4	90.6	114.4	3869.6	8660.8
37129223950000	-79.23070	40.1337	93.2	2587.8	32.5	85.7	105.3	161.1	208.0	2152.0	4150.4
37129224020000	-79.48741	40.4001	34.2	1193.0	21.1	49.6	68.3	101.2	128.0	3454.2	7390.2
37129224860000	-79.49532	40.4043	36.2	1174.4	23.1	58.9	80.4	113.5	142.7	2839.3	7138.8
37129224980000	-79.27090	40.0846	88.1	2373.2	33.3	86.7	107.6	162.2	209.6	2120.5	4120.4
37129225960000	-79.49864	40.2583	30.6	1177.4	18.4	42.4	59.5	87.0	109.8	4053.7	8857.4

37129226170000	-79.38880	40.2201	86.5	2345.1	33.0	86.2	106.9	166.8	214.0	2147.6	4000.9
37129227410000	-79.64055	40.3161	34.8	1072.9	24.1	56.0	76.4	112.5	143.0	3221.4	6332.7
37129227660000	-79.65548	40.5128	26.7	1044.2	16.9	40.1	59.0	80.5	101.5	4466.8	10022.0
37129229100000	-79.57150	40.3804	75.4	2385.1	27.8	73.5	92.0	150.3	190.5	2555.9	4488.3
37129229280000	-79.17420	40.1390	88.6	2539.6	31.4	82.5	101.9	157.2	202.4	2257.0	4263.4
37129230140000	-79.28514	40.4141	36.1	1227.4	22.1	50.8	69.7	102.3	129.8	3604.6	7076.6
37129230420000	-79.13640	40.2088	102.8	2416.5	38.8	101.9	124.4	201.5	257.5	1742.3	3560.3
37129230610000	-79.20670	40.1562	85.6	2493.6	30.7	80.7	99.9	155.0	199.1	2322.5	4333.1
37129230950000	-79.29018	40.4103	36.5	1287.8	21.3	49.6	68.1	100.1	126.9	3686.7	7278.7
37129231340000	-79.18260	40.1300	79.1	2619.8	26.8	70.7	88.0	134.9	173.5	2711.4	5083.6
37129231350000	-79.12640	40.2225	73.1	2297.9	27.9	72.9	91.6	146.3	186.1	2622.4	4640.0
37129231550000	-79.16470	40.1510	87.0	2632.9	29.6	78.1	96.5	145.7	188.4	2403.4	4651.4
37129232180000	-79.60347	40.4898	41.8	1223.8	26.8	65.5	89.9	127.6	163.0	2772.0	5436.5
37129232390000	-79.62590	40.5295	25.0	1041.5	15.3	36.4	54.3	73.6	92.5	4984.0	10915.1
37129232410000	-79.62968	40.5285	33.5	1140.9	21.5	52.1	73.7	102.4	130.0	3247.6	7568.1
37129232650000	-79.66670	40.1167	75.5	2486.3	26.8	69.9	87.9	131.0	169.1	2728.8	5243.7
37129232670000	-79.34963	40.3784	36.1	1168.9	23.2	53.2	72.7	107.6	136.4	3436.0	6679.6
37129233110000	-79.28900	40.4179	41.9	1275.9	25.8	59.8	80.6	119.4	152.0	3092.6	5894.6
37129233470000	-79.29185	40.4198	38.8	1256.1	23.8	55.1	74.8	110.6	140.5	3336.1	6457.2
37129233760000	-79.41158	40.3302	32.7	1161.9	20.4	46.7	64.9	95.3	120.5	3777.4	7761.6
37129233820000	-79.40459	40.3293	38.5	1186.6	24.9	57.4	77.8	115.4	146.5	3200.0	6146.5
37129233830000	-79.43014	40.4415	36.6	1257.0	22.0	52.1	71.2	105.8	134.0	3469.2	6889.0
37129234200000	-79.23940	40.1347	81.1	2410.4	29.9	78.1	97.5	148.3	191.1	2410.6	4557.9
37129235660000	-79.40997	40.3248	32.3	1173.5	19.8	45.6	63.5	93.1	117.7	3777.4	8041.7
37129235710000	-79.43183	40.3155	33.3	1213.1	20.0	46.4	64.4	94.6	119.7	3750.2	7870.9
37129235970000	-79.46256	40.4485	30.2	1143.6	18.5	43.6	61.1	89.5	113.0	3908.9	8813.6
37129236190000	-79.69202	40.5090	33.4	1219.8	20.0	49.8	70.3	99.2	125.1	3444.2	8150.4
37129236380000	-79.50054	40.4189	21.6	725.7	17.4	38.6	55.0	79.7	100.4	4523.7	9917.9
37129236400000	-79.65984	40.5586	38.0	1190.9	24.4	60.4	83.7	118.7	150.3	2803.8	6335.4
37129236410000	-79.68889	40.4984	31.0	1162.5	18.9	46.5	66.4	92.6	116.7	3799.6	8763.7
37129236850000	-79.44093	40.4737	30.5	1165.0	18.4	43.6	61.0	89.4	112.9	3909.1	8847.4
37129237030000	-79.61625	40.1623	31.5	1244.5	18.1	41.8	58.8	85.7	108.2	4129.8	8972.4
37129237060000	-79.63090	40.0951	82.9	2503.6	29.5	77.3	96.2	144.3	186.5	2435.9	4702.5
37129237070000	-79.61406	40.1593	31.9	1187.5	19.3	44.1	61.7	90.1	114.0	3906.3	8336.5
37129237180000	-79.30558	40.4152	30.1	1115.9	18.9	42.9	60.3	88.2	111.3	3983.9	8617.1

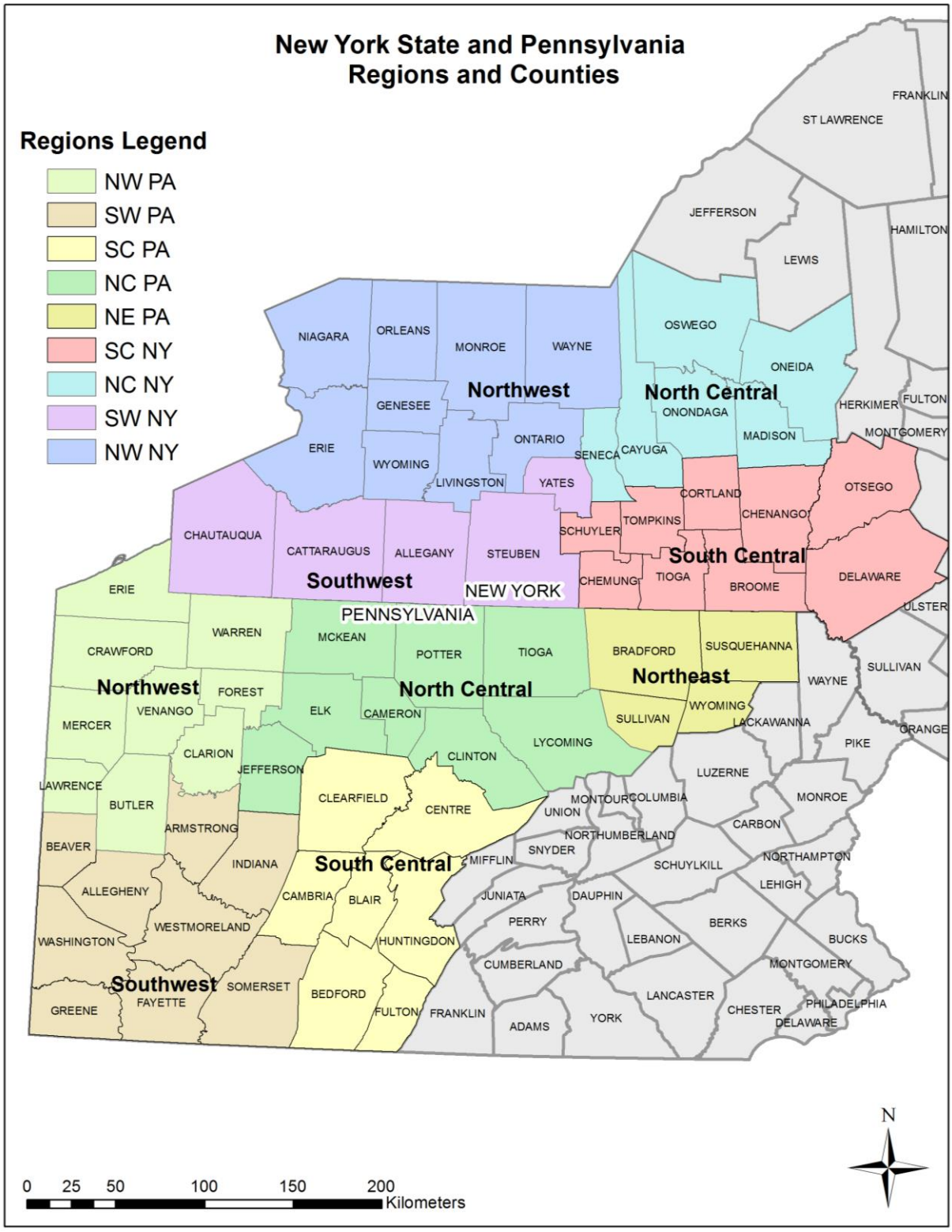
37129237300000	-79.61432	40.4530	24.1	854.4	17.6	39.8	58.9	80.1	101.1	4496.2	9922.2
37129237810000	-79.47634	40.2629	30.0	1126.5	18.6	42.5	59.8	87.2	110.1	4040.0	8786.8
37129238620000	-79.42868	40.2991	35.3	1242.4	21.2	49.4	68.0	100.2	126.9	3676.6	7289.8
37129239470000	-79.39724	40.3510	31.9	1100.9	20.8	47.1	65.5	96.0	121.5	3753.6	7649.2
37129239710000	-79.09800	40.2734	65.7	2207.4	25.7	66.5	84.8	131.9	168.2	2852.8	5244.3
37129239730000	-79.09500	40.2475	66.2	2349.7	24.4	63.7	81.0	127.9	162.6	2966.3	5451.1
37129240450000	-79.54602	40.5389	30.5	1126.9	19.1	46.2	66.4	91.7	116.1	3778.7	8722.5
37129240850000	-79.19640	40.2363	88.5	2695.0	29.5	78.5	96.2	157.4	200.3	2409.5	4244.8
37129241200000	-79.64251	40.4471	27.4	971.4	18.9	43.8	63.8	87.6	110.9	4028.3	9033.9
37129241370000	-79.05060	40.3183	81.3	2434.4	29.7	77.7	96.9	149.6	192.1	2428.8	4514.9
37129241380000	-79.33836	40.4016	31.8	1137.5	20.0	45.8	63.8	93.5	118.2	3756.5	7974.9
37129241500000	-79.39770	40.4455	34.1	1235.1	20.4	47.7	66.0	97.3	123.1	3597.4	7691.1
37129241510000	-79.04350	40.3279	85.7	2517.7	30.5	80.2	99.2	154.2	198.1	2340.1	4356.4
37129241990000	-79.48413	40.2668	31.1	1126.5	19.6	44.8	62.6	91.5	115.7	3837.0	8222.5
37129242250000	-79.68552	40.4122	27.8	1128.1	16.7	40.0	58.4	80.5	101.7	4465.8	10031.9
37129242490000	-79.59636	40.4687	21.2	808.0	15.1	33.7	51.2	68.7	86.3	5410.5	11446.3
37129242560000	-79.38903	40.4418	35.3	1281.1	20.5	48.3	66.6	98.4	124.5	3643.6	7555.4
37129242830000	-79.65522	40.1447	32.0	1071.1	21.5	48.1	66.6	96.8	122.9	3793.8	7509.3
37129242850000	-79.57734	40.5477	30.6	1128.7	19.1	46.6	66.7	92.6	116.9	3784.7	8718.9
37129243130000	-79.47674	40.2900	29.6	1117.4	18.4	42.0	59.2	86.3	109.0	4091.5	8917.1
37129243540000	-79.67065	40.3981	33.0	1192.4	20.2	48.9	69.3	97.3	123.5	3459.7	8051.8
37129243570000	-79.66578	40.1462	28.4	1071.1	18.1	40.6	57.4	82.9	104.8	4302.6	9192.5
37129243600000	-79.57691	40.5038	31.3	1230.8	18.1	44.4	63.5	88.8	112.4	3953.2	9062.8
37129243660000	-79.43158	40.3463	34.4	1122.0	22.6	51.5	70.8	104.2	132.2	3537.6	6923.8
37129243670000	-79.46622	40.3007	35.6	1130.8	23.5	53.8	73.5	108.5	137.7	3396.3	6601.9
37129243700000	-79.45498	40.2888	27.5	1170.7	15.8	36.4	52.3	75.6	95.1	4831.6	10498.3
37129243740000	-79.45192	40.2918	32.8	1169.2	20.3	46.7	64.9	95.2	120.5	3753.0	7781.3
37129243880000	-79.46696	40.4811	34.2	1281.4	19.6	48.1	66.3	96.5	122.5	3526.1	8138.0
37129243930000	-79.53014	40.1614	28.4	1133.3	17.1	39.0	55.5	80.7	101.6	4453.2	9698.2
37129244050000	-79.60944	40.5143	29.8	1112.8	18.7	44.8	64.5	89.3	113.0	3919.8	8939.7
37129244180000	-79.36505	40.4306	29.3	1205.5	16.9	39.1	55.6	81.0	102.0	4433.4	9741.1
37129244230000	-79.36207	40.4287	36.3	1233.8	22.2	51.6	70.7	104.7	132.7	3524.1	6919.9
37129244250000	-79.62937	40.4794	30.8	1106.7	19.7	47.2	67.5	93.7	118.8	3601.4	8412.0
37129244260000	-79.42447	40.3484	33.7	1117.1	22.2	50.4	69.5	102.2	129.5	3610.8	7091.1
37129244270000	-79.42533	40.3512	31.3	1100.9	20.3	46.0	64.1	93.8	118.7	3770.7	7900.9

37129244290000	-79.43012	40.3707	30.5	1251.2	17.2	40.0	56.6	82.6	104.2	4322.2	9508.5
37129244330000	-79.65541	40.1539	26.9	1062.8	16.9	37.7	53.9	77.7	98.0	4668.5	10018.0
37129244420000	-79.67970	40.6132	26.2	1054.0	16.4	39.5	58.0	80.0	100.2	4502.6	10243.8
37129244480000	-79.43956	40.3621	29.7	1279.6	16.2	37.9	54.0	78.7	99.1	4592.7	10093.4
37129244490000	-79.43630	40.3635	30.5	1278.9	16.8	39.4	55.9	81.5	102.8	4393.4	9676.2
37129244560000	-79.65151	40.1549	27.2	1080.5	16.8	37.6	53.8	77.4	97.6	4689.8	10063.3
37129244710000	-79.39009	40.4361	29.5	1264.9	16.2	38.1	54.2	79.0	99.5	4570.8	10070.4
37129244790000	-79.61857	40.1550	26.3	1142.4	15.1	34.4	49.9	71.6	90.0	5180.2	11067.3
37129244810000	-79.58979	40.1535	33.6	1233.8	19.9	46.2	64.1	94.4	119.3	3808.6	7896.1
37129245130000	-79.43712	40.3709	27.3	1223.8	15.0	34.8	50.4	72.9	91.6	5062.2	10951.3
37129245160000	-79.71298	40.2894	37.1	1252.1	22.5	54.2	73.5	109.1	138.5	3244.4	6754.7
37129245320000	-79.64766	40.6422	32.1	955.2	24.2	57.2	80.9	112.5	142.2	2954.5	6719.3
37129245720000	-79.38163	40.4393	32.2	1299.1	17.8	42.0	59.0	86.5	109.2	4078.4	9021.8
37129245770000	-79.64330	40.4737	32.8	1172.9	20.3	49.2	69.8	97.5	123.7	3434.1	8044.7
37129245890000	-79.59550	40.4920	31.0	1163.7	18.9	45.7	65.5	91.2	115.6	3782.9	8734.9
37129246000000	-79.42438	40.3539	32.8	1173.5	20.3	46.7	64.8	95.1	120.3	3771.0	7787.2
37129246790000	-79.64884	40.4903	28.4	963.2	20.1	46.7	67.5	92.5	117.3	3699.3	8461.5
37129246870000	-79.42858	40.3772	32.3	1223.8	19.1	44.3	61.9	90.8	114.7	3858.7	8389.9
37129246940000	-79.43350	40.3720	34.7	1233.5	20.8	48.5	66.9	98.7	124.9	3728.3	7438.9
37129247030000	-79.42653	40.3619	25.5	1165.9	14.1	32.5	47.6	68.3	85.7	5500.6	11627.1
37129247130000	-79.36904	40.4388	35.2	1231.4	21.3	49.6	68.3	100.8	127.7	3653.9	7242.4
37129247140000	-79.37213	40.4402	33.1	1241.5	19.4	45.4	63.1	92.8	117.3	3783.0	8171.0
37129247200000	-79.63569	40.1055	31.2	1093.0	20.3	45.4	63.4	91.8	116.3	3937.3	8011.3
37129247210000	-79.63287	40.4901	27.1	1078.1	16.8	39.9	58.5	80.4	101.5	4474.1	10020.4
37129247300000	-79.72249	40.2859	34.3	1200.6	21.0	50.2	68.9	101.6	128.8	3377.4	7465.4
37129247370000	-79.62753	40.4729	30.6	1127.8	19.1	45.9	65.8	91.4	115.8	3770.9	8692.3
37129247380000	-79.63726	40.4811	31.2	1136.6	19.6	47.1	67.3	93.5	118.5	3608.3	8459.8
37129247390000	-79.62677	40.4822	33.1	1197.9	20.1	49.0	69.5	97.2	123.4	3446.8	8081.0
37129247500000	-79.62700	40.4684	33.5	1144.5	21.5	51.7	73.0	102.0	129.7	3277.2	7531.2
37129247510000	-79.61837	40.1524	31.3	1139.3	19.5	44.3	62.0	90.2	114.2	3906.4	8261.2
37129247570000	-79.61011	40.5546	31.0	1164.0	18.9	46.6	66.5	92.9	117.0	3793.8	8760.4
37129247680000	-79.61817	40.5185	31.3	1142.7	19.5	47.1	67.3	93.5	118.5	3626.1	8482.8
37129247900000	-79.62396	40.4721	32.9	1133.9	21.0	50.6	71.7	100.0	127.0	3350.0	7734.0
37129247910000	-79.63228	40.4650	31.2	1133.6	19.6	47.0	67.3	93.5	118.6	3610.4	8449.8
37129247930000	-79.64327	40.5093	32.3	1176.8	19.8	48.1	68.5	95.3	120.9	3516.7	8298.6

37129248100000	-79.72389	40.6011	25.9	946.1	17.9	42.0	61.6	84.5	106.0	4210.4	9625.0
37129248230000	-79.63040	40.4821	28.4	1087.2	17.8	42.4	61.6	84.9	107.3	4186.7	9454.2
37129248780000	-79.42456	40.3577	30.0	1131.1	18.6	42.5	59.8	87.1	110.0	4043.6	8793.3
37129248810000	-79.60795	40.4894	30.8	1104.3	19.7	47.1	67.5	93.7	118.9	3604.2	8399.7
37129248820000	-79.62407	40.5070	31.5	1160.4	19.4	47.0	67.0	93.3	118.3	3620.2	8495.4
37129248830000	-79.64664	40.4903	28.4	1091.8	17.8	42.4	61.7	84.9	107.3	4187.1	9466.2
37129248840000	-79.64867	40.4878	31.4	1148.2	19.5	47.1	67.3	93.4	118.4	3628.1	8489.8
37129248850000	-79.61227	40.4985	31.2	1133.9	19.6	47.0	67.2	93.5	118.6	3611.3	8447.9
37129248860000	-79.60846	40.4977	32.4	1141.2	20.5	49.3	70.1	97.8	124.1	3434.8	7975.4
37129248890000	-79.63571	40.4882	29.8	865.9	24.0	54.4	77.7	106.9	136.0	3110.9	6847.2
37129249450000	-79.61585	40.5010	28.9	1128.7	17.6	42.3	61.3	84.9	107.3	4188.1	9482.4
37129250060000	-79.62161	40.1533	34.6	1184.2	21.6	49.4	68.1	99.8	126.6	3695.4	7283.3
37129250070000	-79.56422	40.5134	29.5	1090.6	18.8	44.8	64.6	89.3	113.2	3913.7	8908.9
37129250080000	-79.62271	40.4809	28.0	1019.9	18.6	43.7	63.5	87.3	110.5	4044.8	9103.4
37129250090000	-79.61447	40.4866	31.2	1134.8	19.6	47.0	67.2	93.5	118.6	3612.6	8446.6
37129250180000	-79.63292	40.5098	29.4	1128.1	18.1	43.6	63.0	87.0	110.1	4062.0	9224.9
37129250390000	-79.62665	40.5132	31.4	1147.9	19.5	47.1	67.2	93.4	118.4	3623.2	8484.6
37129250530000	-79.51093	40.5117	26.1	1217.4	14.1	34.4	51.1	70.4	88.4	5277.2	11393.9
37129250810000	-79.59758	40.4876	32.7	1210.7	19.6	47.8	67.9	95.0	120.6	3538.7	8325.6
37129250910000	-79.43425	40.3544	33.1	1194.2	20.2	46.6	64.6	94.9	120.1	3748.5	7832.4
37129250930000	-79.61208	40.4706	36.4	1257.6	21.8	53.6	74.8	105.6	134.3	3152.5	7250.4
37129250940000	-79.57542	40.4174	19.0	734.3	13.6	30.5	46.3	63.2	79.3	6018.0	12220.6
37129250980000	-79.67403	40.5193	28.3	996.7	19.3	45.7	66.2	91.0	114.8	3871.4	8814.6
37129251000000	-79.60903	40.4728	32.0	1194.2	19.2	46.8	66.7	93.1	118.0	3635.0	8540.3
37129251010000	-79.83727	40.1653	26.3	1231.4	14.1	32.4	47.4	67.9	85.2	5544.8	11696.2
37129252050000	-79.44480	40.3745	28.7	1264.9	15.6	36.5	52.3	76.0	95.6	4800.7	10505.4
37129252130000	-79.65983	40.5519	25.7	1207.3	13.9	34.4	51.0	70.4	87.9	5277.2	11456.1
37129252640000	-79.38040	40.4422	26.8	1226.2	14.5	33.9	49.2	71.0	89.2	5234.3	11244.6
37129254590000	-79.19840	40.3060	37.8	1399.6	20.6	48.0	66.1	92.5	118.5	3822.6	7803.7
37129255990000	-79.13261	40.3323	35.4	1249.1	21.2	49.1	67.7	100.0	126.6	3699.0	7313.1
37129261150000	-79.07050	40.3444	45.8	1724.0	21.3	52.8	70.7	106.3	134.9	3490.4	6808.8
37129261160000	-79.07920	40.3381	46.5	1736.8	21.6	53.6	71.5	108.0	137.0	3437.8	6683.9
37129262260000	-79.11220	40.3362	47.4	1775.2	21.6	53.9	71.8	108.4	137.6	3426.9	6648.9
37129262270000	-79.11580	40.3397	49.8	1789.2	22.8	56.8	75.2	113.9	144.8	3265.5	6255.7
37129262420000	-79.11430	40.3341	47.5	1778.8	21.6	53.8	71.7	108.2	137.4	3430.9	6661.3

APPENDIX B

REGIONAL AND COUNTY MAP OF NEW YORK STATE AND PENNSYLVANIA



APPENDIX C

STATISTICAL CHARACTERISTICS OF GEOTHERMAL GRADIENT, AVERAGE THERMAL CONDUCTIVITY, AND SURFACE HEAT FLOW

	Geothermal Gradient (°C/km)	Average Thermal Conductivity (W/mK)	Surface Heat Flow (mW/m^2)
No. Observations	7969	7969	7969
Smallest	4.8 (°C/km)	1.8 ($Wm^{-1}K^{-1}$)	14.4 (mW/m^2)
Lower Fourth	20.0 (°C/km)	2.2 ($Wm^{-1}K^{-1}$)	46.3 (mW/m^2)
Median	23.3 (°C/km)	2.2 ($Wm^{-1}K^{-1}$)	52.4 (mW/m^2)
Upper Fourth	25.6 (°C/km)	2.4 ($Wm^{-1}K^{-1}$)	57.3 (mW/m^2)
Largest	49.7 (°C/km)	3.3 ($Wm^{-1}K^{-1}$)	122.2 (mW/m^2)
Mean	23.0 (°C/km)	2.3 ($Wm^{-1}K^{-1}$)	52.7 (mW/m^2)
Variance	19.2 $(°C/km)^2$	0.04 $(Wm^{-1}K^{-1})^2$	121.3 $(mW/m^2)^2$
Standard Deviation	4.4 (°C/km)	0.2 ($Wm^{-1}K^{-1}$)	11.0 (mW/m^2)
Standard Error	0.05 (°C/km)	0.002 ($Wm^{-1}K^{-1}$)	0.12 (mW/m^2)
Skewness	0.07	1.30	0.80

APPENDIX D

FIGURES 7.1 – 7.4 ENLARGED

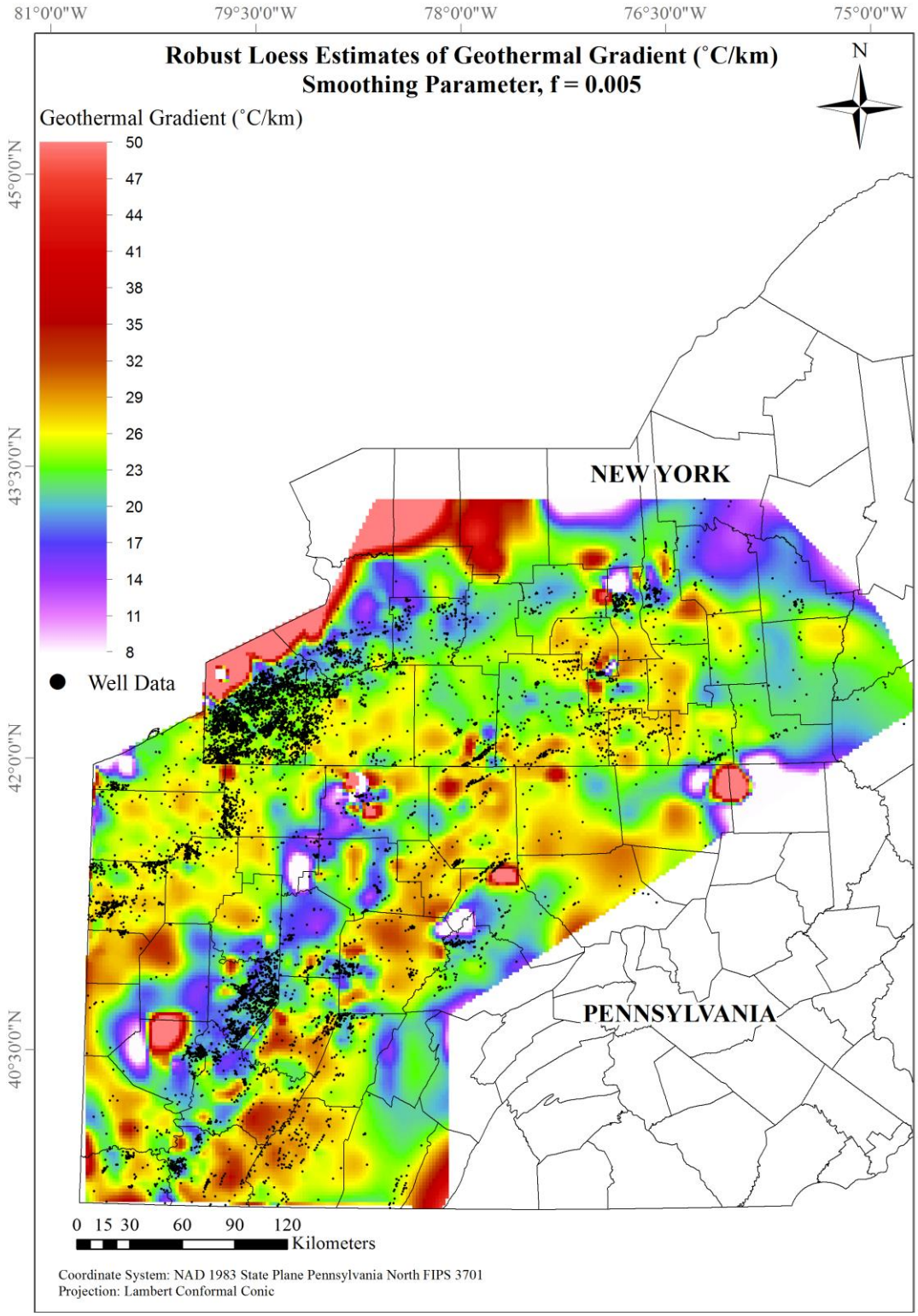


Figure 7.1. R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.005$

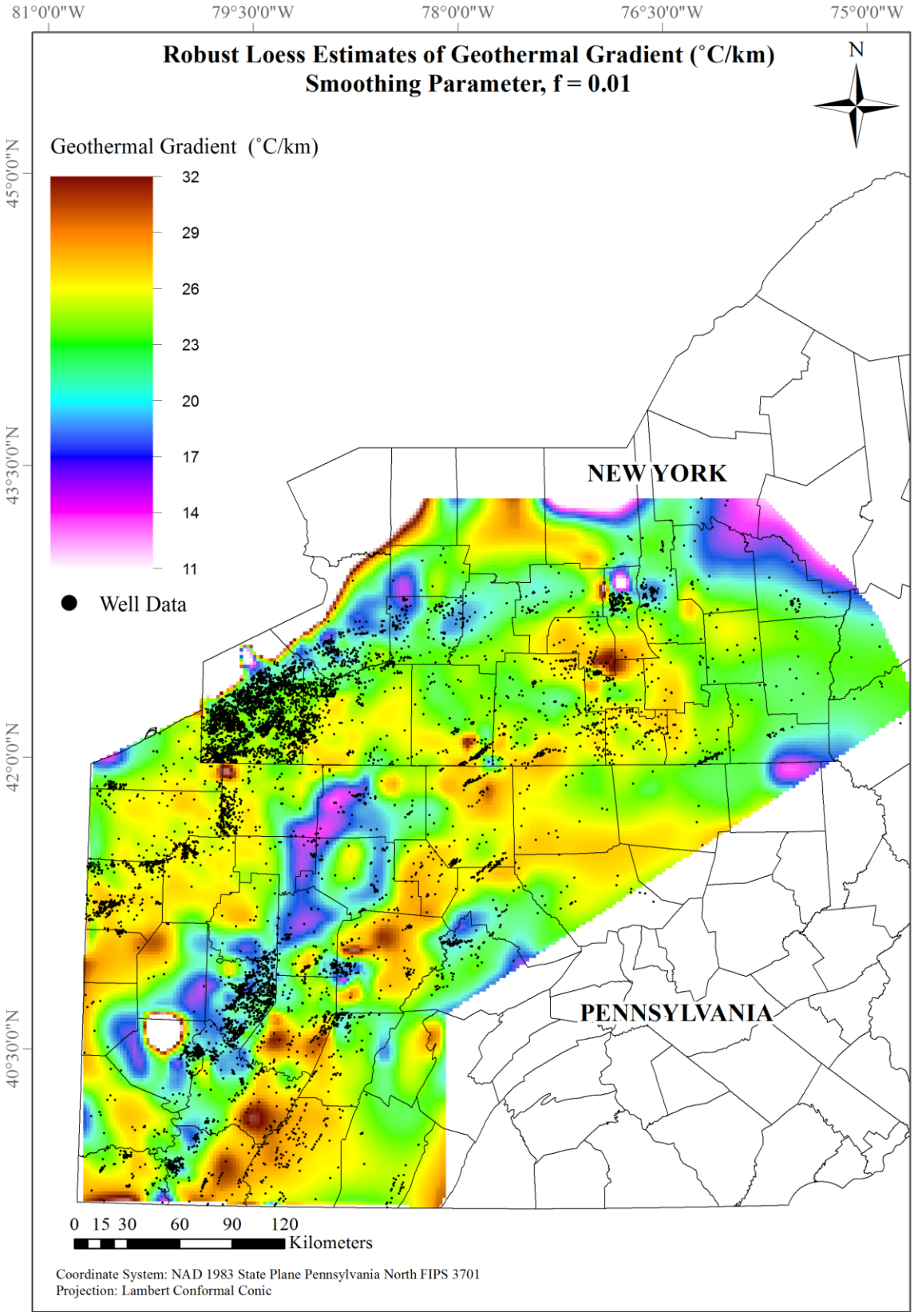


Figure 7.2. R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.01$.

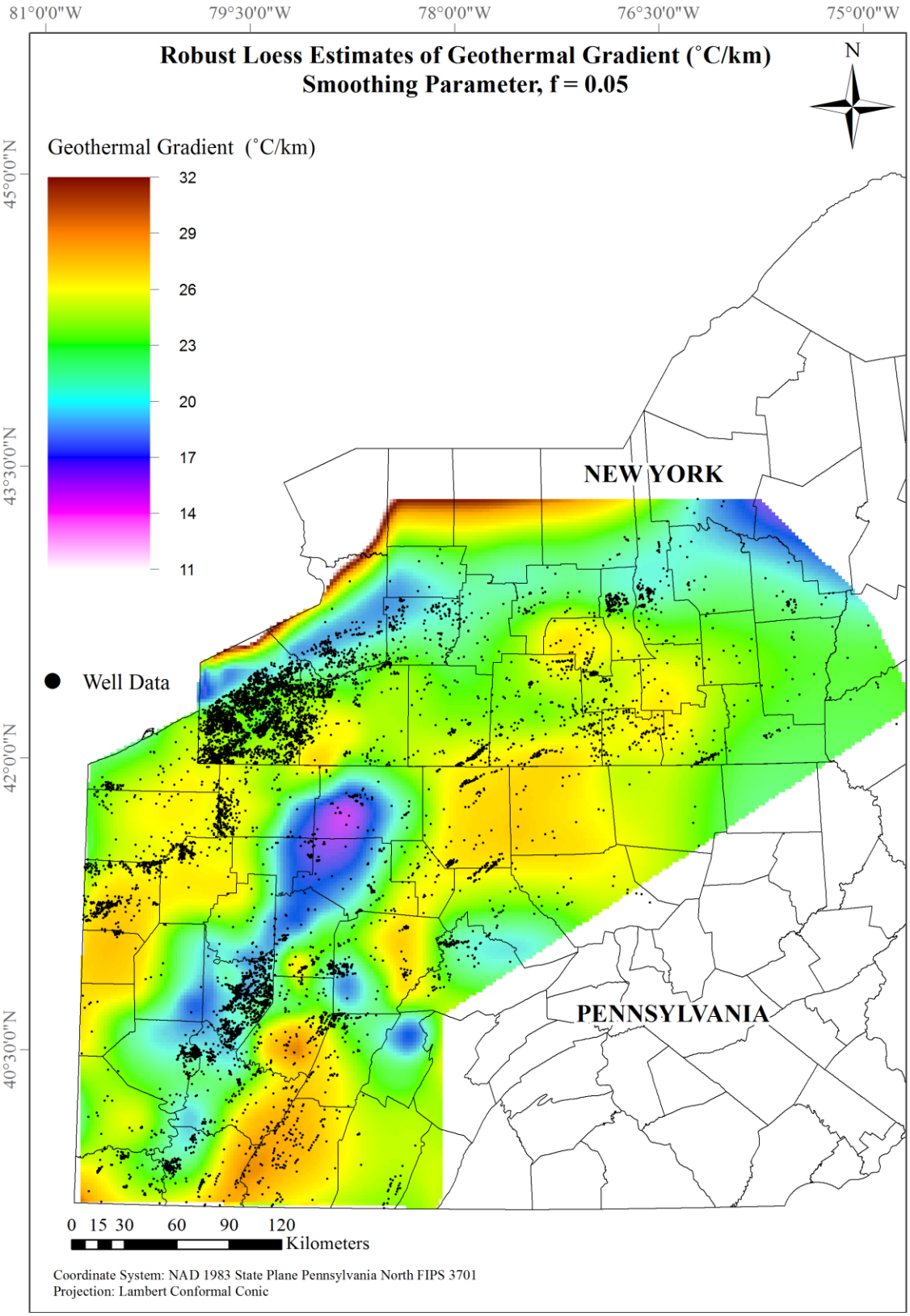


Figure 7.3. R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.05$

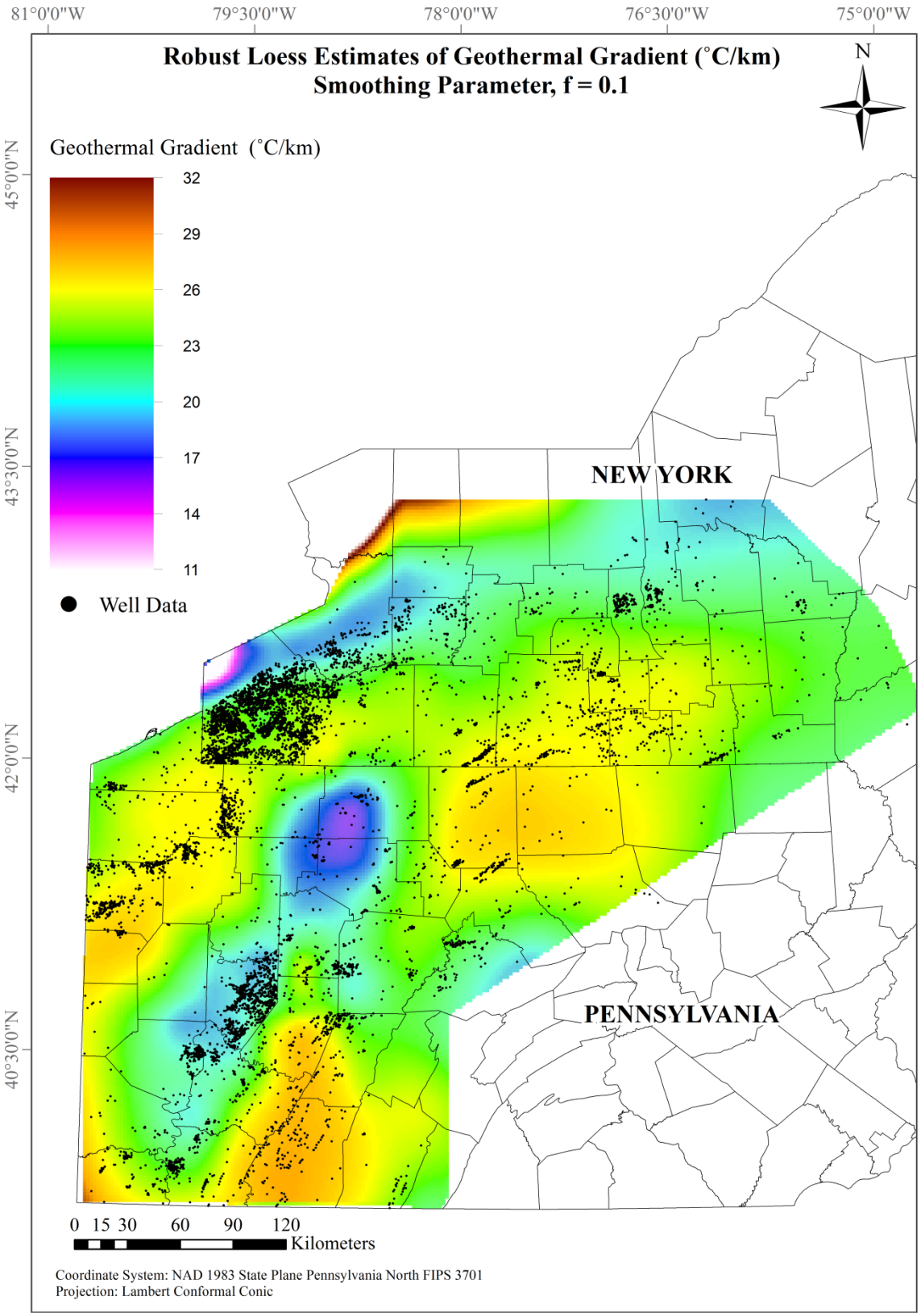


Figure 7.4. R-*loess* with outliers and robustness for geothermal gradient (˚C/km) based on a smoothing parameter, $f = 0.1$

APPENDIX E

SIDE-BY-SIDE VIEWS OF LOESS AND R-LOESS ESTIMATES FOR GEOTHERMAL GRADIENTS AND TEMPERATURE-AT-DEPTH OF 4.5 KM

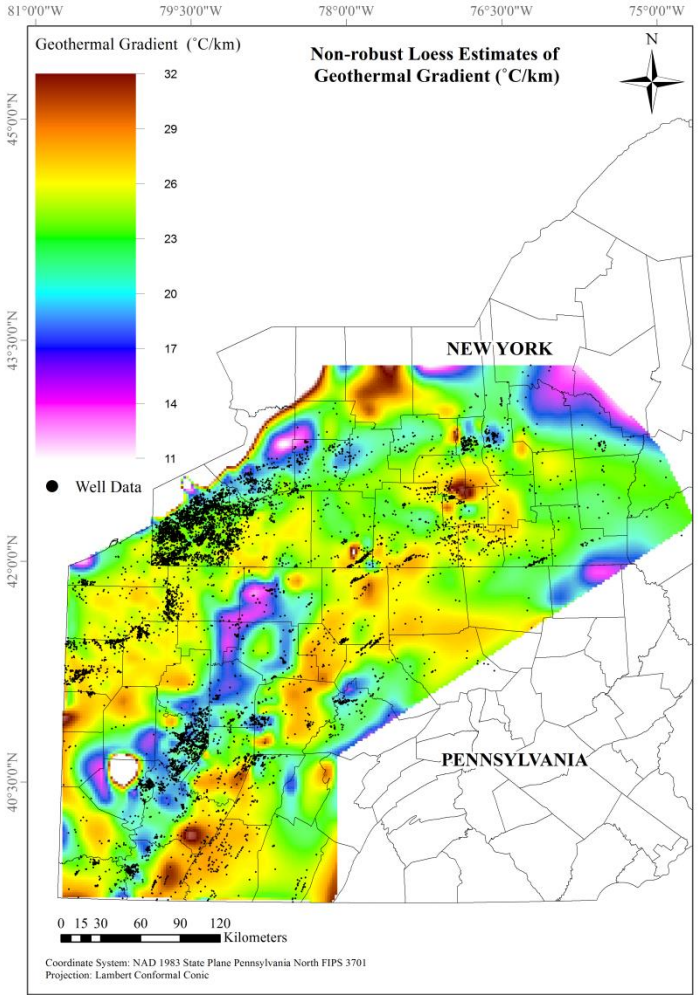


Figure 7.5: *Loess* estimates of geothermal gradient (˚C/km) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

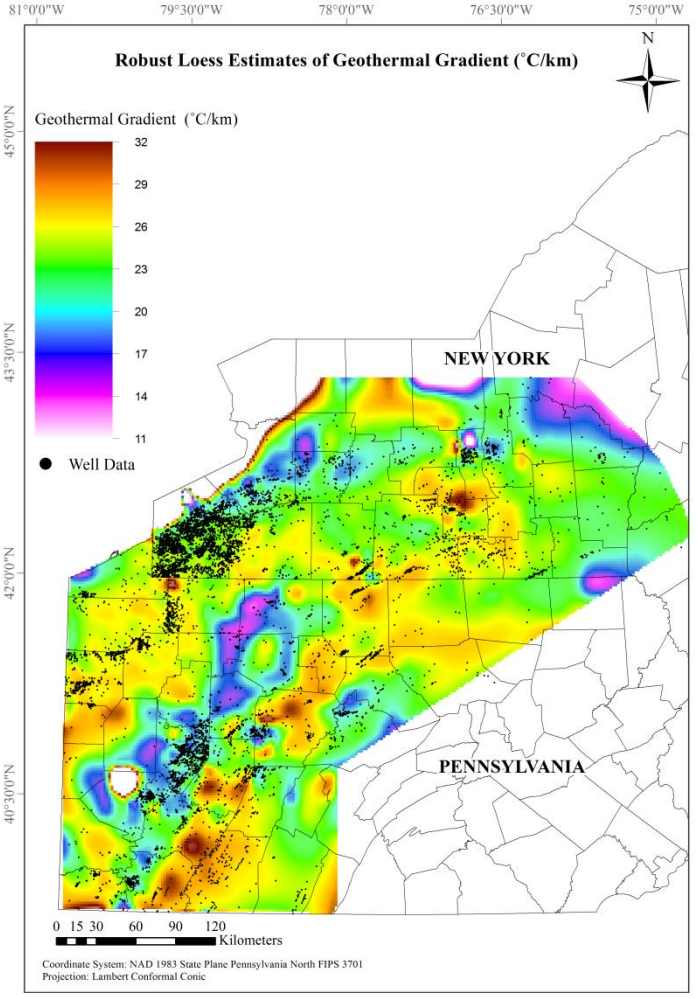


Figure 7.6: Robust *loess* (R-*loess*) estimates of geothermal gradient (˚C/km) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

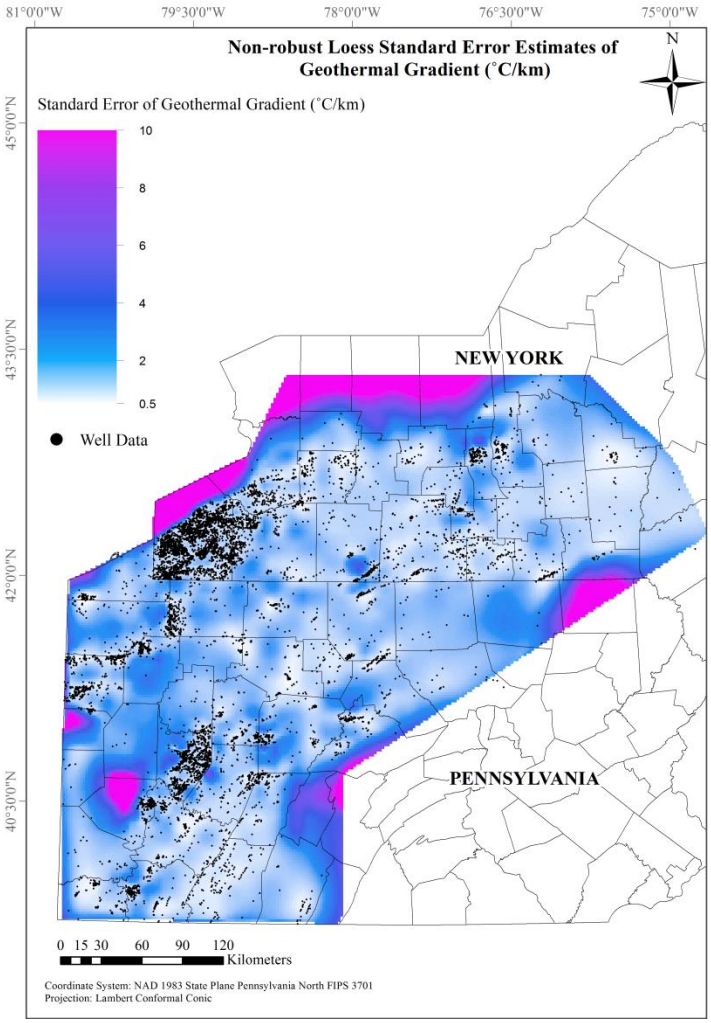


Figure 7.7: *Loess* standard error estimates of geothermal gradient (ºC/km) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

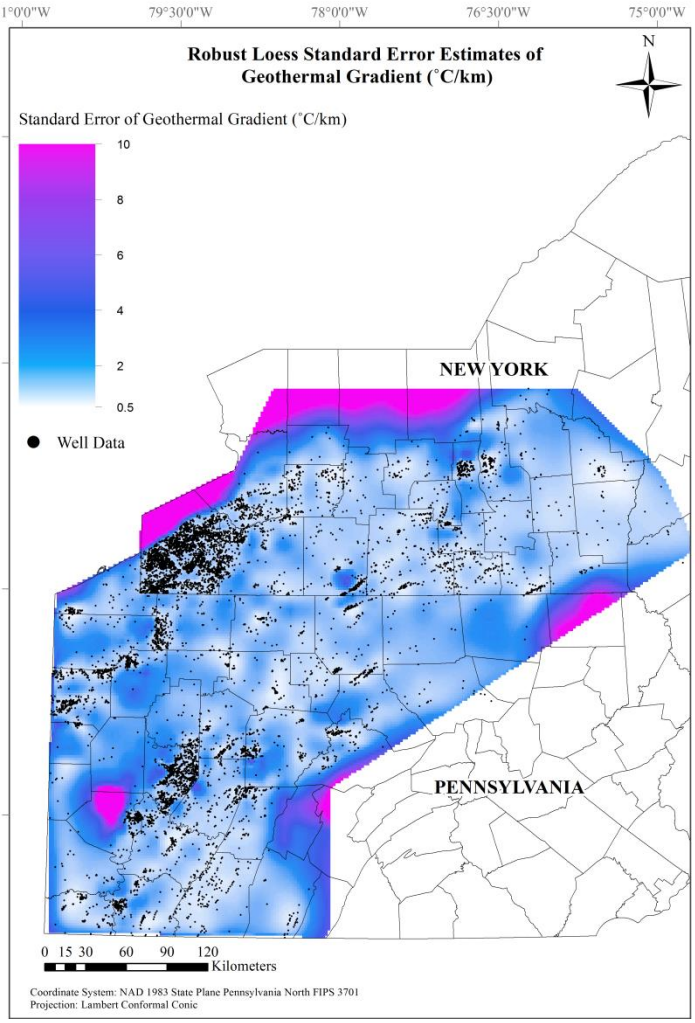


Figure 7.8: Robust *Loess* (R-*loess*) standard error estimates of geothermal gradient (ºC/km) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

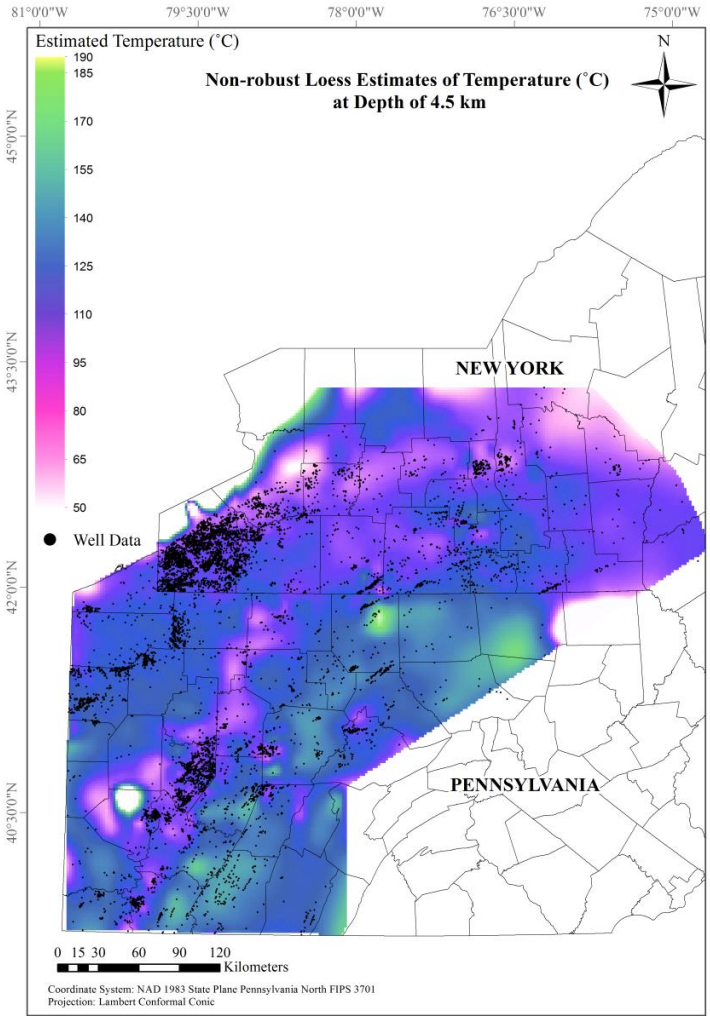


Figure 7.9: *Loess* estimates of temperature-at-depth of 4.5 km (˚C) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

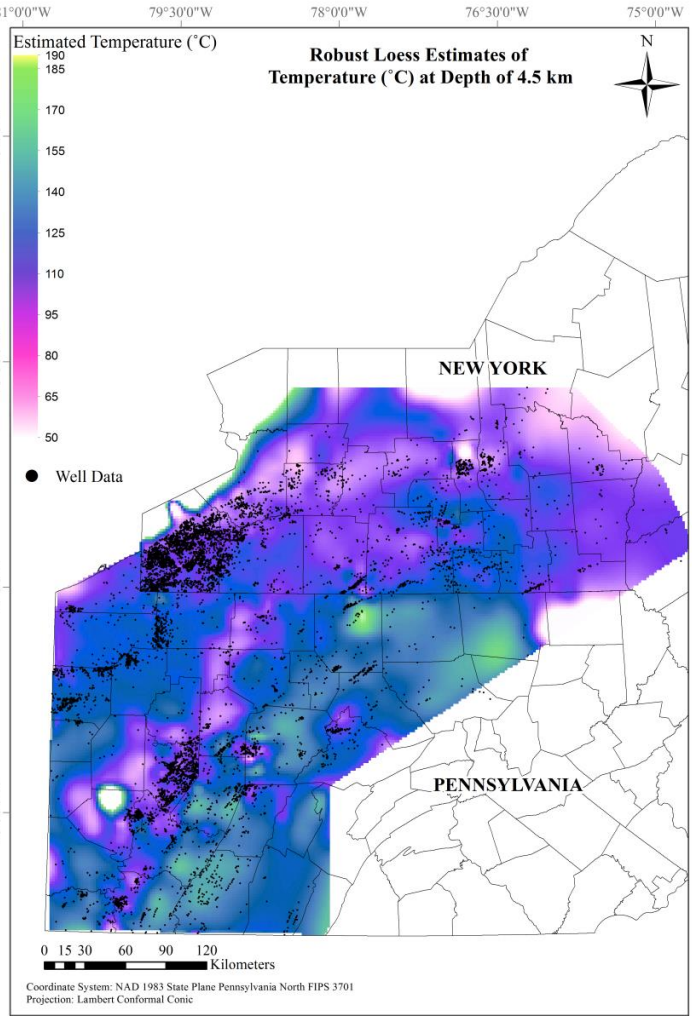


Figure 7.10: Robust *loess* estimates of temperature-at-depth of 4.5 km (˚C) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

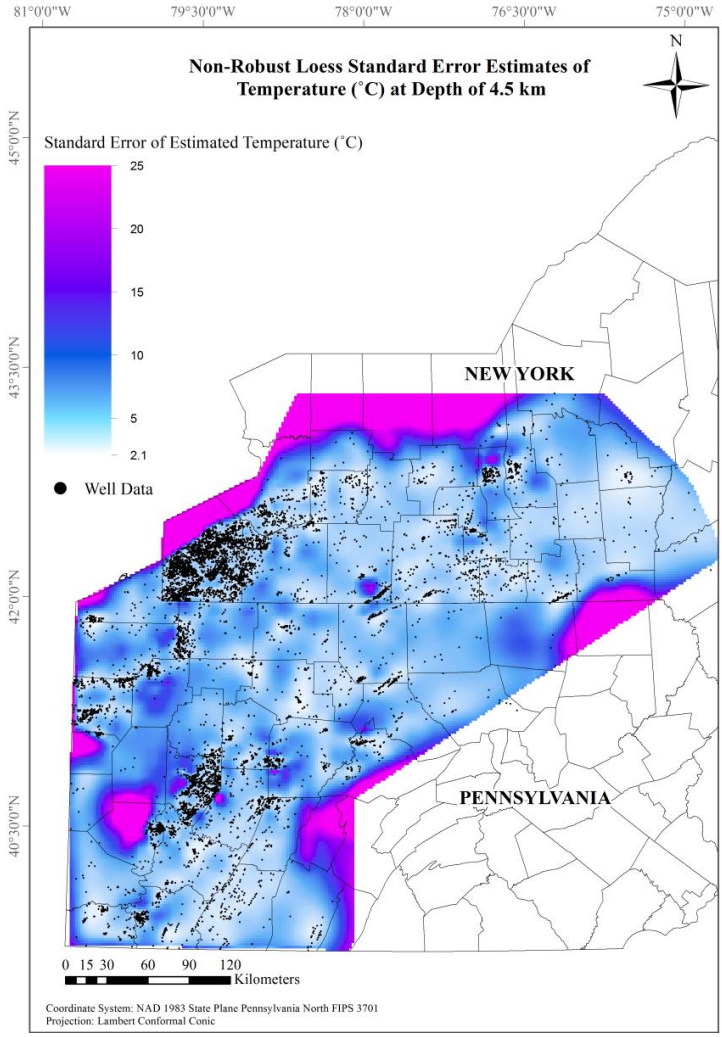


Figure 7.11: *Loess* standard error estimates of temperature-at-depth of 4.5 km (˚C) with no outliers and no robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

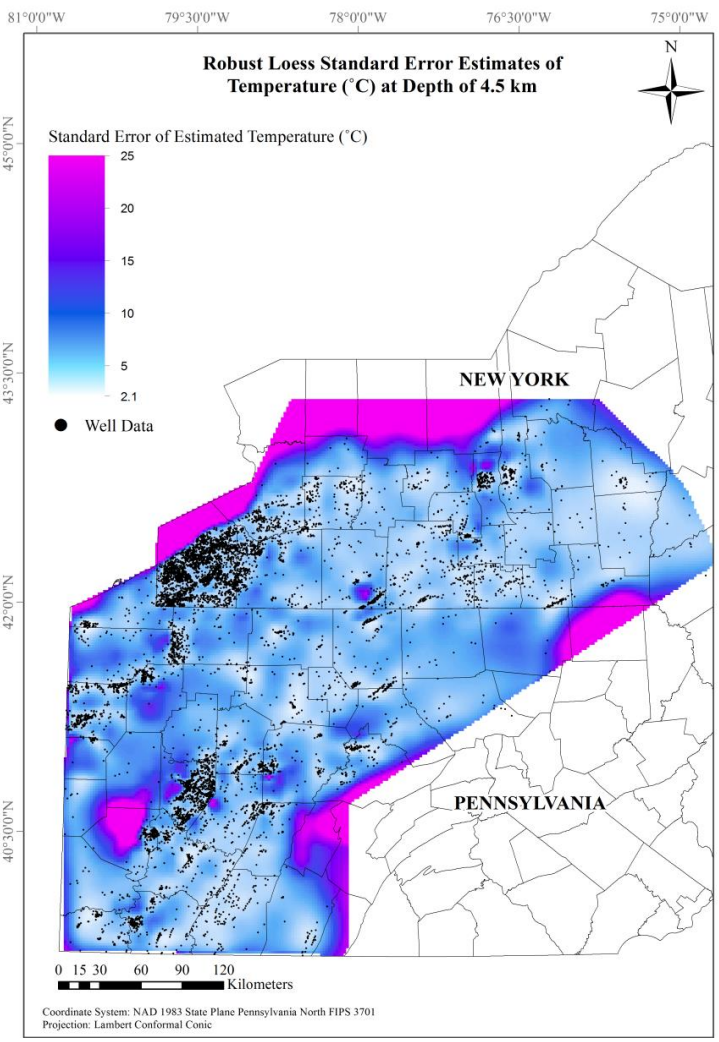


Figure 7.12: Robust *loess* standard error estimates of temperature-at-depth of 4.5 km (˚C) with outliers and robustness for the Appalachian Basin of New York and Pennsylvania, with individual well locations shown as black diamonds. Data sources: SMU, PA Geological Survey, NYS Museum, NYSDEC, 2011.

APPENDIX F

COMPARISON OF THE ESTIMATES FOR TEMPERATURE-AT-DEPTH OF 4.5 KM REPORTED BY KRIGING, *LOESS*, AND R-*LOESS* AT EACH OBSERVATION POINT WITHIN THE DATASET.

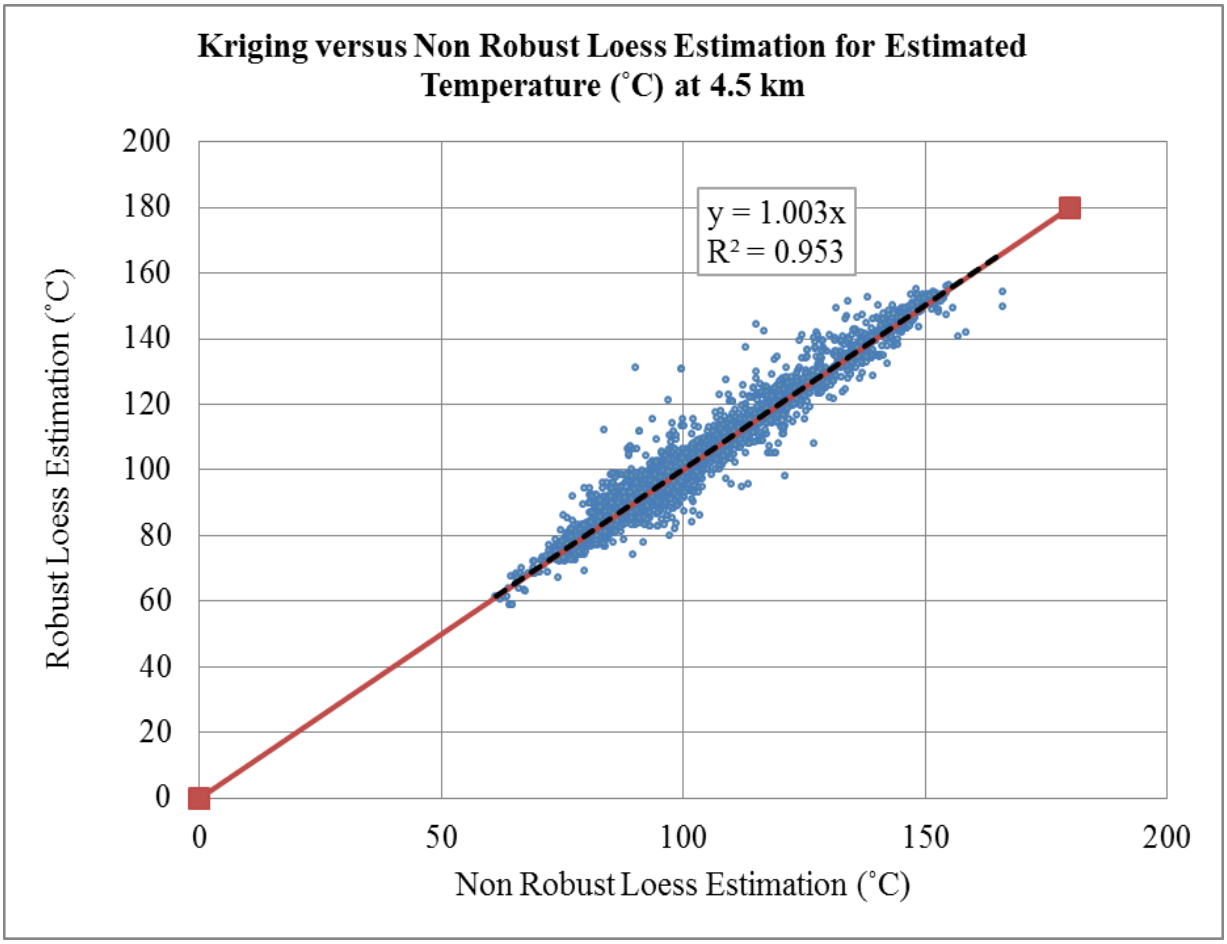


Figure F.1: Comparison between the estimates of temperature-at-depth of 4.5 km reported by kriging and *loess* with no outliers and no robustness for each observation point.

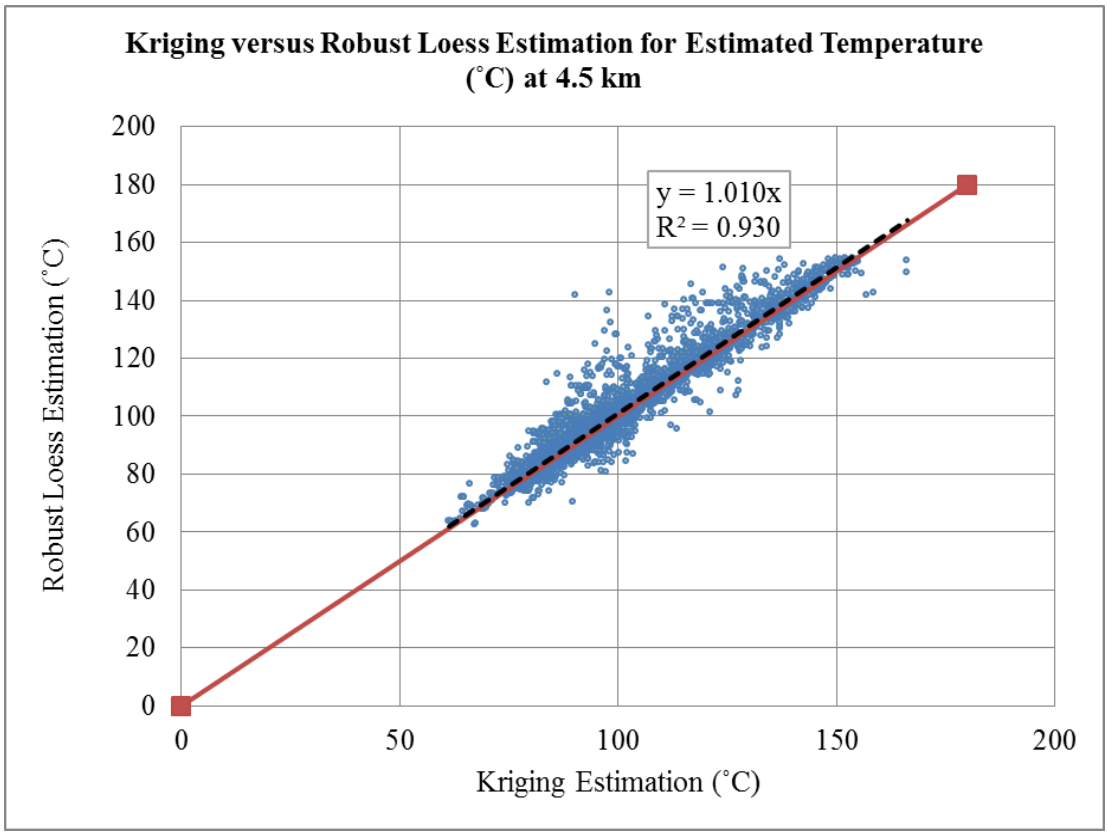


Figure F.2: Comparison between the estimates of temperature-at-depth of 4.5 km reported by kriging and R-*loess* for each observation point.

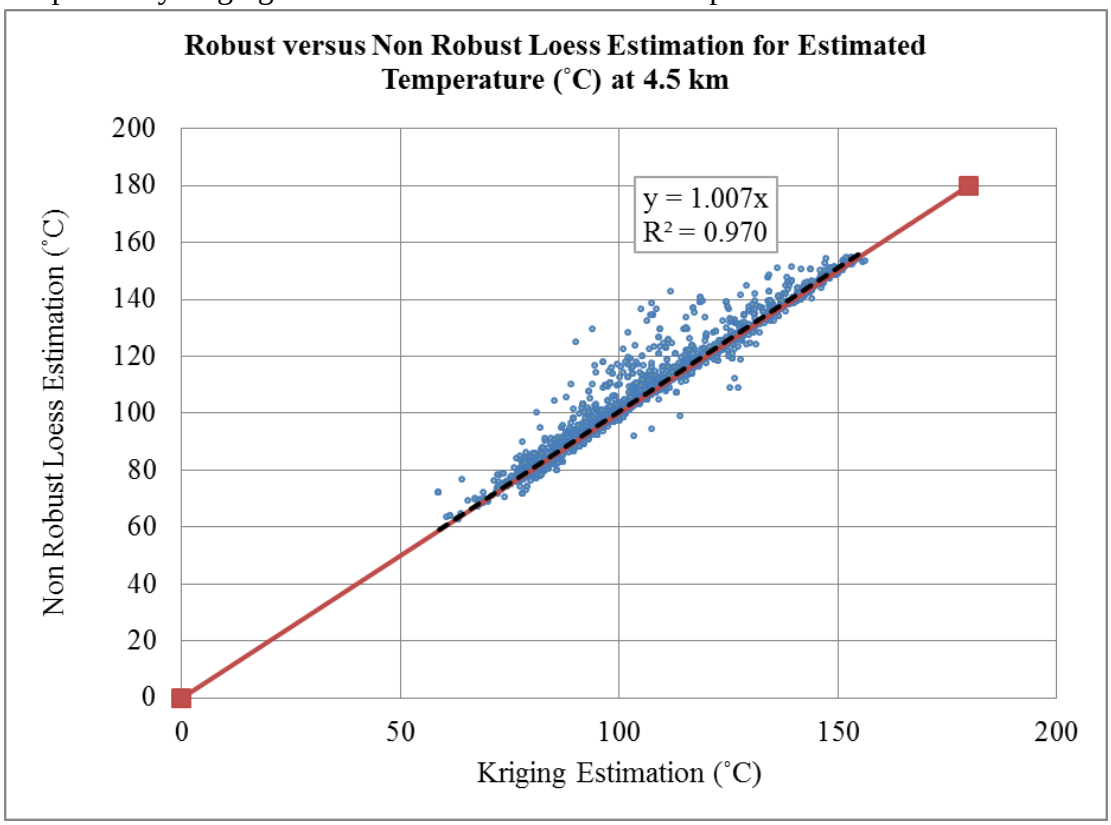


Figure F.2: Comparison between the estimates of temperature-at-depth of 4.5 km reported by R-*loess* and *loess* for each observation point.

APPENDIX G

CODES FOR KRIGING GEOSTATISTICAL INTERPOLATION AND LOCALLY WEIGHTED REGRESSION

Code for Variogram Modeling and Kriging Geostatistical Interpolation

Variogram modeling and ordinary kriging (OK) interpolation were analyzed with the use of R Foundation for Statistical Computing (R Development Core Team, 2011) and with *ArcGIS 10* (ESRI, Inc, 2010).. The packages used in the *R Foundation for Statistical Computing* program included *sp*: Classes and Methods for Spatial Data (Pebesma and Bivand, 2005), *gstat*: Spatial and Spatio-temporal Geostatistical Modeling, Prediction and Simulation (Pebesma, 2004), *lattice*: Lattice Graphics (Sarkar, 2008), *spdep*: Spatial Dependence: Weighting Schemes, Statistics and Models (Bivand et al., 2011), *maptools*: Tools Reading and Handling Spatial Objects (Bivand et al., 2014), and *rgdal*: Bindings for the Geospatial Data Abstraction Library (Bivand et al., 2014).

##REQUIRED TOOLS AND LIBRARIES##
require(sp)
require(gstat)
require(lattice)
require(spdep)
require(maptools)
require(rgdal)

##TO CONVERT TO SPATIAL DATA TYPE##
Coordinates were converted from WGS84 to a projection for Northern Pennsylvania##
##Spatial Reference:spatialreference.org/ref/epsg/2271/ in units of feet (Butler et al., 2007)##

coordinates(GF) <- c("long", "lat")

##TO COMPUTE THE EXPERIMENTAL SEMIVARIOGRAM FOR GEOTHERMAL GRADIENT (Chapter 6, Table 6.1, pp. 96)##
##cutoff distance refers to the maximum distance at which pairs of data points will be considered for inclusion in the experimental semivariogram. It is also the distance where the experimental semivariogram appears to have reached the sill##
##width=cutoff distance divided by 15 number of bins##

(v <- variogram(gradient~1, GF, cutoff=475000, width=475000/15))

##TO PLOT THE EXPERIMENTAL SEMIVARIOGRAM FOR GEOTHERMAL GRADIENT (Chapter 6, Figure 6.2, pp. 95)##

print(plot(v, main= list("Experimental Semivariogram for Geothermal Gradient", cex = 1.35), xlab= list("Distance to Points (feet)", cex = 1.35), ylab=list(expression(paste("Semivariance (˚C/km)" ^ "2")), cex = 1.35), cex = 1.75, xaxis = 1.75))

##TO COMPUTE THE SEMIVARIOGRAM SURFACE PLOT FOR GEOTHERMAL GRADIENT (Chapter 6, Figure 6.3, pp. 98)##

(print(plot(variogram(gradient~1, GF, map=TRUE, cutoff=475000, width=475000/15), main="Semivariogram Surface Map", col.regions=terrain.colors(64))))

##TO COMPUTE THE FITTED SEMIVARIOGRAM MODEL FOR GEOTHERMAL GRADIENT (Chapter 6, Figure 6.4, pp. 100)##
##based on the shape of the sample variogram, the Gaussian variogram model was selected##
##anisotropy was found extending in a NE – SW direction, and is shown by the light green ellipsoidal shape passing through the origin. The orthogonal directions were found to be 41˚ (major axis) and 130˚ (minor axis). The largest range was found at 2.95e+05 feet (90 km) in the NE quadrant. The smallest range was found at 1.47e+05 feet (45 km) in the NW quadrant. The anisotropy ratio and anisotropy angle were calculated as 0.54 and 40˚, respectively##

vm <- vgm(psill=16, model="Gau", range=300000, nugget=6, anis=c(40, 0.54))
(print(plot(v, model=vm, main="Unfitted Gaussian Semivariogram Model", xlab="Distance to Points (feet)", ylab="Semivariance")))
(vmf <- fit.variogram(v, vm))
(print(plot(v, model=vmf, main= list("Fitted Gaussian Semivariogram Model for Geothermal Gradient", cex = 1.35), xlab= list("Distance to Points (feet)", cex = 1.35), ylab=list(expression(paste("Semivariance (˚C/km)" ^ "2")), cex = 1.35), cex = 1.75, xaxis = 1.75)))

##CREATE YOUR GRID##
grd = spsample(GF, type = "regular", cellsize = c(1000,1000))
gridded(grd) = TRUE

FOR KRIGING INTERPOLATION OF GEOTHERMAL VARIABLES, WITH GEOTHERMAL GRADIENT AS AN EXAMPLE (Chapter 6, Figure 6.5, pp. 106)##
##kriging with Gaussian fit (vmf), nmin = min of 20 points, nmax = max of 25 points, maxdist = 175000##

k71 <- krige(gradient~1, locations=GF, newdata=grd, model=vmf, nmin=20, nmax=25, maxdist = 175000)

##FOR KRIGING STANDARD ERROR OF THE PREDICTED MEAN, σ^2_{EM}, WITH GEOTHERMAL GRADIENT AS AN EXAMPLE (Chapter 6, Figure 6.6, pp. 107)##
##Nugget value must come from fitted semivariogram model (vmf). This is located in the "psill" column in row labeled "Nugget", which is row [1]##

NUGGET = vmf$psill[1]
k71$se<- sqrt((k71$var1.var - (NUGGET)))

##TO EXPORT KRIGING INTERPOLATED GRID TO ARCGIS, INCLUDES ESTIMATES AND STANDARD ERROR ESTIMATES##
writeGDAL(k71, "Gradient_Report_Gauss_20min_25max_dist175k_k71.tif", driver="GTiff")

Code for Locally Weighted Regression

The locally weighted regression was modeled using the *R Foundation for Statistical Computing* (R Development Core Team, 2011) and *ArcGIS 10* (ESRI, Inc., 2010). The *R Statistical Computing* package used include *locfit*: Local Regression, Likelihood and Density Estimation (Loader, 1997; 1999). The *ArcGIS 10* toolboxes used in the analysis included the *3D Analyst Tools* and the *Spatial Analyst Tools*, among others (ESRI, Inc., 2010).

##REQUIRED TOOLS AND LIBRARIES##
require(locfit)

For *loess* estimation with no outliers and no robustness for geothermal variables, with geothermal gradient as an example

COMPUTE *LOESS* WITH THE DATASET THAT DOES NOT CONTAIN OUTLIERS AND DOES NOT USE ROBUST *LOESS* WEIGHTS (Chapter 7, Figure 7.5, pp. 173)##
##Smoothing parameter, *f* = 0.01; quadratic polynomial degree (deg = 2); no *loess* robustness (kern = "tcub" for tri-cube weight function)##

locfit.n <-locfit(z~lp(x, y, nn = .01, deg = 2), data = GF, kern = "tcub")

For R-*loess* estimation with outliers and robustness for geothermal variables, with geothermal gradient as an example

COMPUTE *R-LOESS* WITH THE DATASET THAT CONTAINS OUTLIERS AND USES ROBUST *LOESS* WEIGHTS (Chapter 7, Figure 7.6, pp. 174)##
##Smoothing parameter, *f* = 0.01; quadratic polynomial degree (deg = 2); *loess* robustness (kern = "bisq" for Tukey's bi-square weight function)##

locfit.r.no <-locfit(z ~lp(x, y, nn = .01, deg = 2), data = GF, kern = "bisq")

##TO CREATE A GRID FOR *LOESS* ESTIMATION ##
new.x <- seq(from = min(GF$long), to = max(GF$long), length = 120)
new.y <- seq(from = min(GF$lat), to = max(GF$lat), length = 120)
x.y.grid <- expand.grid(x = new.x, y = new.y)

##TO ESTIMATE ON THE GRID for *loess* with no outliers and no robustness ##

locfit.n.grid <- predict(locfit.n, x.y.grid, se.fit = TRUE)

##TO ESTIMATE ON THE GRID for R-*loess* with outliers and robustness ##

locfit.r.no.grid <- predict(locfit.r.no, x.y.grid, se.fit = TRUE)

##TO ADD SPATIAL COORDINATES TO THE GRID ON BOTH *LOESS* AND R-*LOESS*#
locfit.n.grid$x = x.y.grid$x
locfit.n.grid$y = x.y.grid$y
locfit.r.no.grid$x = x.y.grid$x
locfit.r.no.grid$y = x.y.grid$y

##TO EXTRACT ESTIMATED *LOESS* AND R-*LOESS* MEAN VALUES AND STANDARD ERRORS ##

write.csv(locfit.n.grid, file="LocLoess_1", quote=FALSE, col.names=FALSE, na="NA", sep="")
write.csv(locfit.r.no.grid, file="LocRloessNo_1", quote=FALSE, col.names=FALSE, na="NA", sep="")

TO CREATE A RASTER GRAPHIC FROM *LOESS* AND R-*LOESS* ESTIMATED MEAN VALUES AND STANDARD ERRORS
IN ESRI ARCGIS 10 USING 3D ANALYST TOOL##

1. *TIN Management – 3D Analyst Tools -> Create TIN*
2. *TIN to raster – 3D Analyst Tools->Conversion-> From*